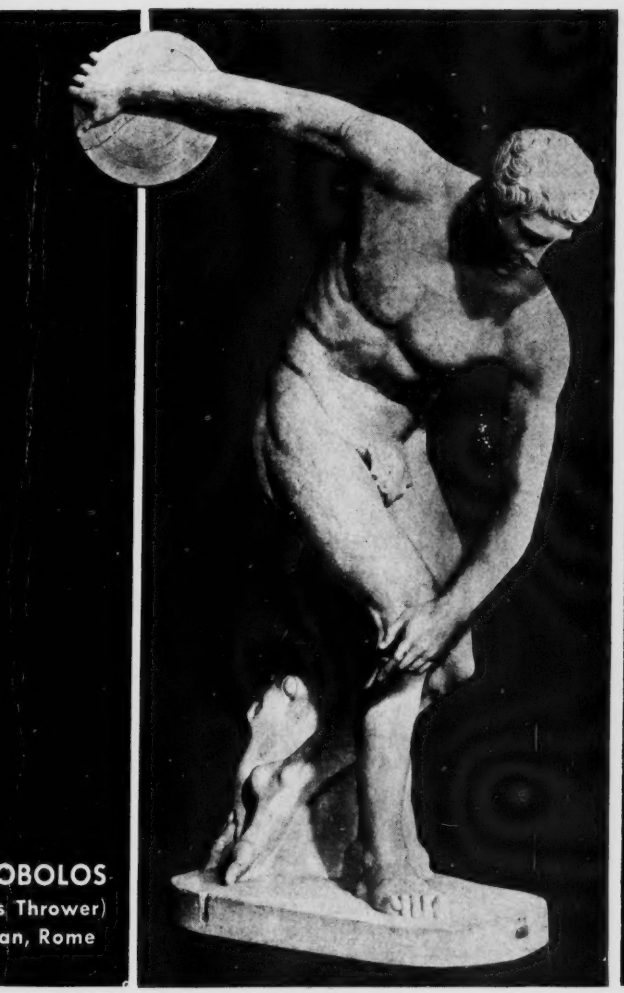
SOAP

SANITARY CHEMICALS

LIBRARY OF IDA...
MOSCOW



OBOLOS
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Enduring

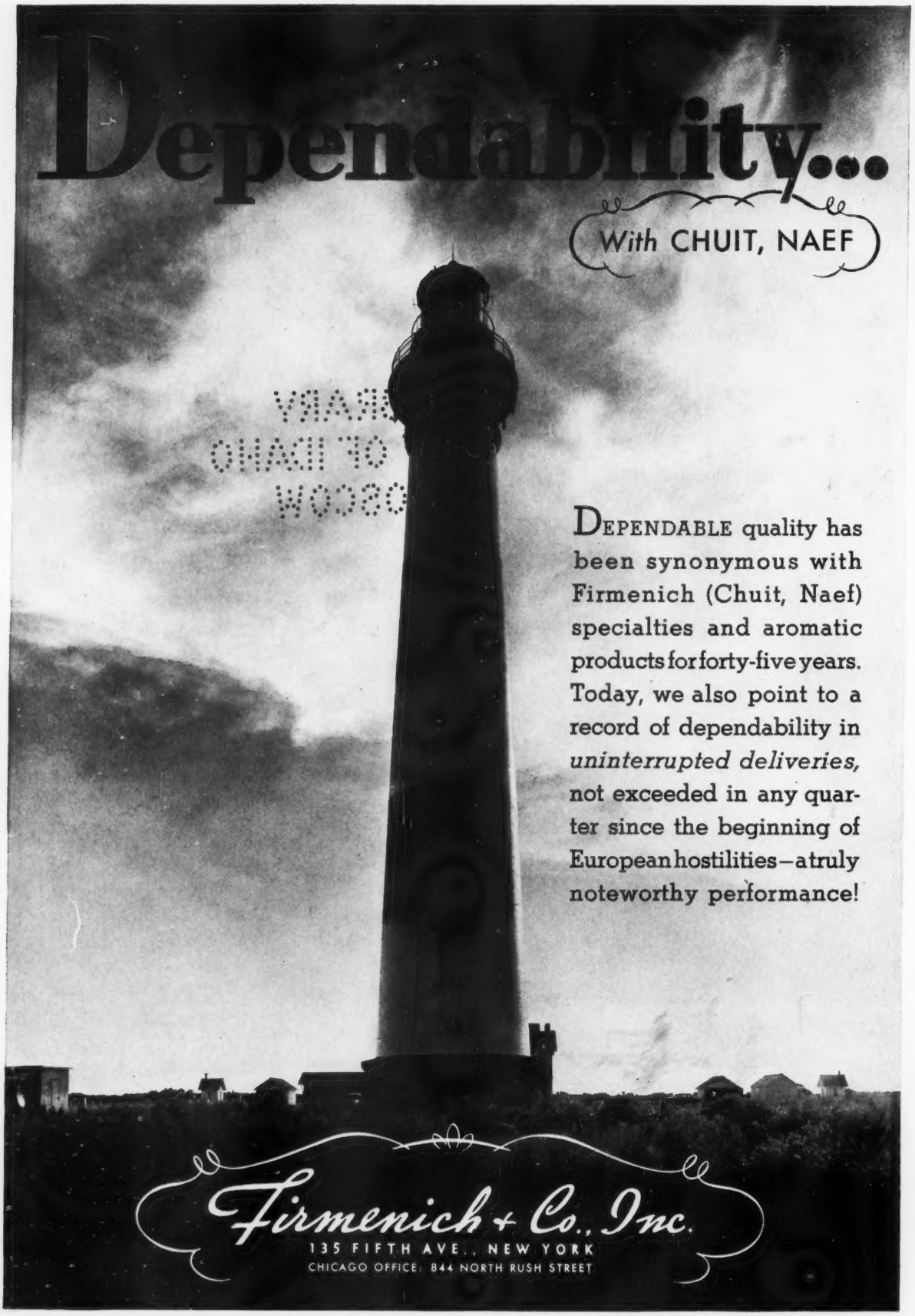
QUALITY

WHEN you incorporate Ungerer perfuming materials into any of your Soap products, you are insuring odor persistence. The enduring quality inherent in all Ungerer products guarantees that result. Our strict adherence to these quality standards suggests in many ways the classic sculptory of ancient Grecian times, which was in that age a leading exponent of Enduring Quality.

•

UNGERER & CO.

13-15 WEST 20th STREET NEW YORK


Dependability...
With CHUIT, NAEF
DEPENDABLE quality has been synonymous with Firmenich (Chuit, Naef) specialties and aromatic products for forty-five years. Today, we also point to a record of dependability in *uninterrupted deliveries,* not exceeded in any quarter since the beginning of European hostilities—a truly noteworthy performance!
Firmenich + Co., Inc.
135 FIFTH AVE., NEW YORK
CHICAGO OFFICE: 844 NORTH RUSH STREET

A LA MARYLAND

Seafood from Maryland is the epicure's choice. It is one of the natural resources of which our state is justly proud.

Another source of Maryland pride is the high quality of FULD BROS'. Sanitary Chemicals, long the choice of the discriminating jobber.

FULD products are compounded with infinite care and absolute uniformity by exclusive Fuld processes* and packaged to please your most fastidious customers.

Your responsibility is ours and we meet it with confidence, through strict adherence to the FULD ideal: quality products and friendly service.

*Exothermic, Vitozone, Plastex, SlypNOTic, Alkali-Proof, Alonize, CirQulator.

DEODORANT BLOCKS
LIQUID DEODORANTS
POWDERED WAXES
FLOOR TREATMENTS

DEODORANT BLOCK HOLDERS
SELF-POLISHING WAXES
LIQUID SOAPS • OIL SOAPS
INSECTICIDES • DISINFECTANTS

FURNITURE POLISHES
PLUMBING SPECIALTIES
SPECIAL CLEANERS
SOAP DISPENSERS

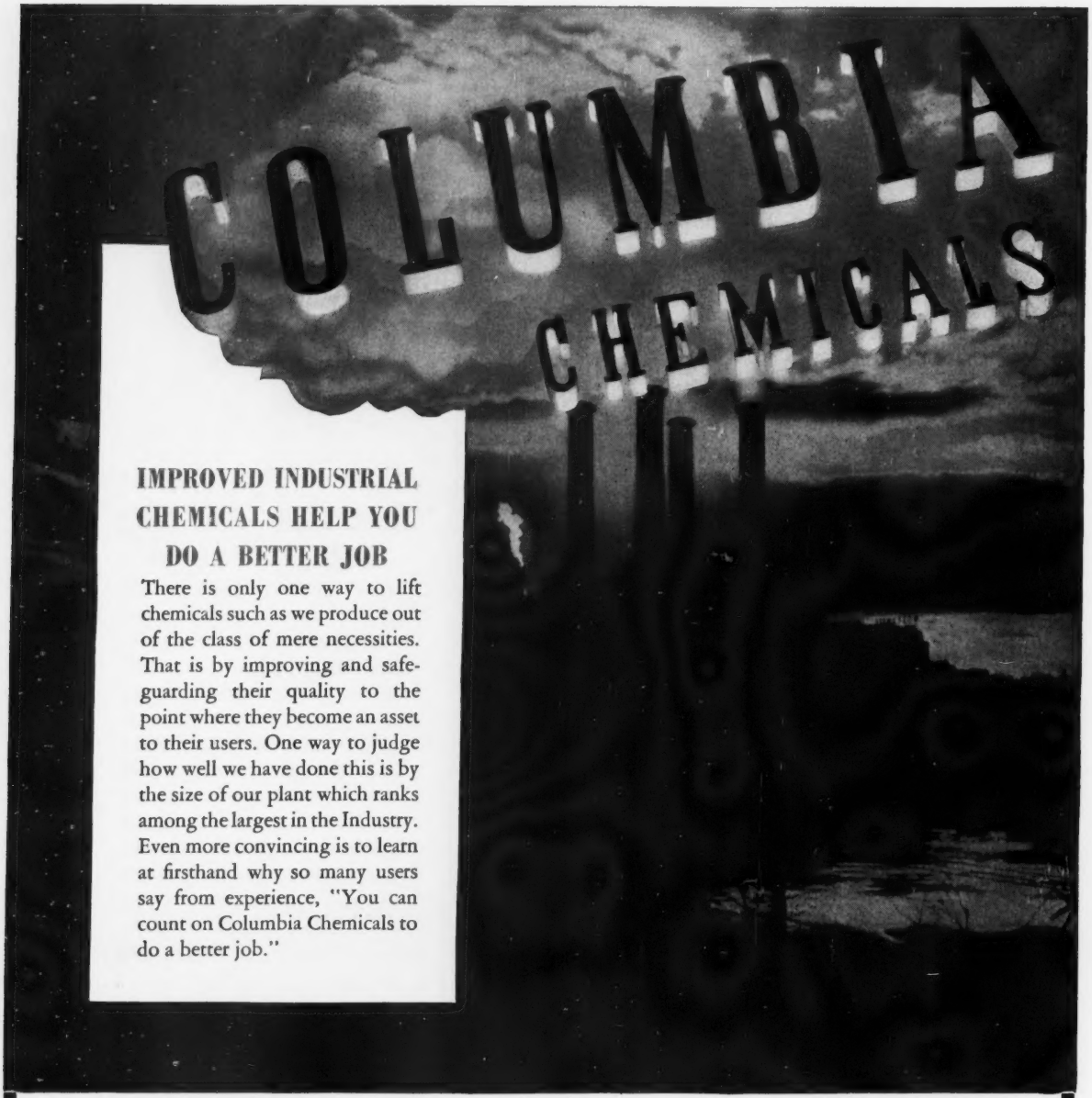
LIQUID CLEANERS
PASTE WAXES
FLOOR SEALS
METAL POLISHES

FULD BROS.©

SELLING JOBBERS ONLY!

702 South Wolfe Street — Baltimore, Maryland

Sales Offices: • Seattle • San Francisco • Kansas City • Boston • Brooklyn



IMPROVED INDUSTRIAL CHEMICALS HELP YOU DO A BETTER JOB

There is only one way to lift chemicals such as we produce out of the class of mere necessities. That is by improving and safeguarding their quality to the point where they become an asset to their users. One way to judge how well we have done this is by the size of our plant which ranks among the largest in the Industry. Even more convincing is to learn at firsthand why so many users say from experience, "You can count on Columbia Chemicals to do a better job."

ESSENTIAL INDUSTRIAL CHEMICALS

SODA ASH • CAUSTIC SODA • SODIUM BICARBONATE • LIQUID CHLORINE
SILENE • CALCIUM CHLORIDE • SODA BRIQUETTES • MODIFIED SODAS
CAUSTIC ASH • PHOSFLAKE • CALCENE • CALCIUM HYPOCHLORITE

COLUMBIA
COLUMBIA CHEMICALS

PITTSBURGH PLATE GLASS COMPANY
Columbia Chemical Division
30 ROCKEFELLER PLAZA
NEW YORK, N.Y.
Chicago • Boston • St. Louis • Pittsburgh • Cincinnati • Cleveland • Minneapolis • Philadelphia • Charlotte

Volume XVII Number 7

SOAP and SANITARY CHEMICALS

Reg. U. S. Pat. Office

JULY
1941

SANITARY Products Section, which forms a part of every issue of SOAP, begins on page 71.

MEMBER AUDIT BUREAU OF CIRCULATIONS

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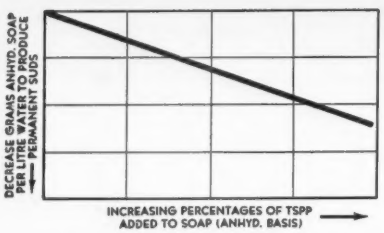
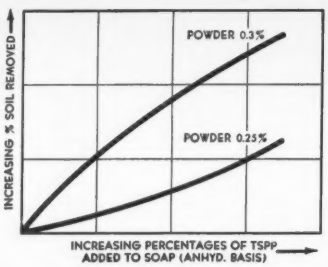
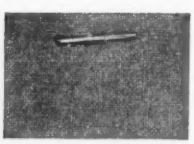
GENERAL CHEMICAL COMPANY TSPP INCREASES DETERGENT EFFICIENCY OF POWDERED SOAP!


DECREASE GRAMS ANHYD. SOAP PER LITRE WATER TO PRODUCE PERMANENT SUDS
INCREASING PERCENTAGES OF TSPP ADDED TO SOAP (ANHYD. BASIS)

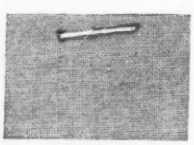
SUDSING TESTS. Addition of General Chemical TSPP reduces amount of anhydrous soap which is necessary to produce permanent suds. This reduction becomes even more evident as the hardness of the water increases.



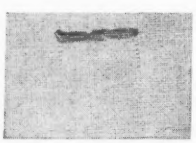
DETERGENCY AS DETERMINED BY LAUNDEROMETER. Adding General Chemical TSPP greatly increases removal of dirt, decreases redeposition of dirt after removal.



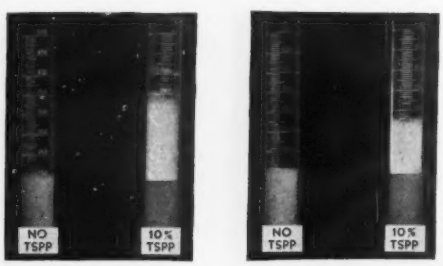
Standard Soiled Cloth Before Washing



Cloth Washed With Powdered Soap



Cloth Washed with Powdered Soap + 10% TSPP



1. 2.

1. **POWDERED SOAP**
0.3% Conc.—Hard Water
Freshly Shaken

2. **POWDERED SOAP**
0.3% Conc.—Hard Water
After 5 Minutes

Laboratory tests prove General Chemical TSPP incorporated in POWDERED SOAP increases detergent efficiency . . . boosts sudsing power . . . reduces amount of soap necessary to make permanent suds . . .

Illustrations at the left show improvements in soap powder incorporating GENERAL CHEMICAL TETRASODIUM PYROPHOSPHATE.

For best results, the exact amount of TSPP to be added to any particular raw soap stock *must* be determined in the laboratory. In this connection, the experience of General Chemical Company's Technical Service Division in improving soap formulations may be of assistance to *you.*

REMEMBER: The uniform, high quality of General Chemical TSPP will help you maintain high quality in your soap or detergent compounds.

GENERAL CHEMICAL COMPANY
40 RECTOR STREET, NEW YORK, N. Y.

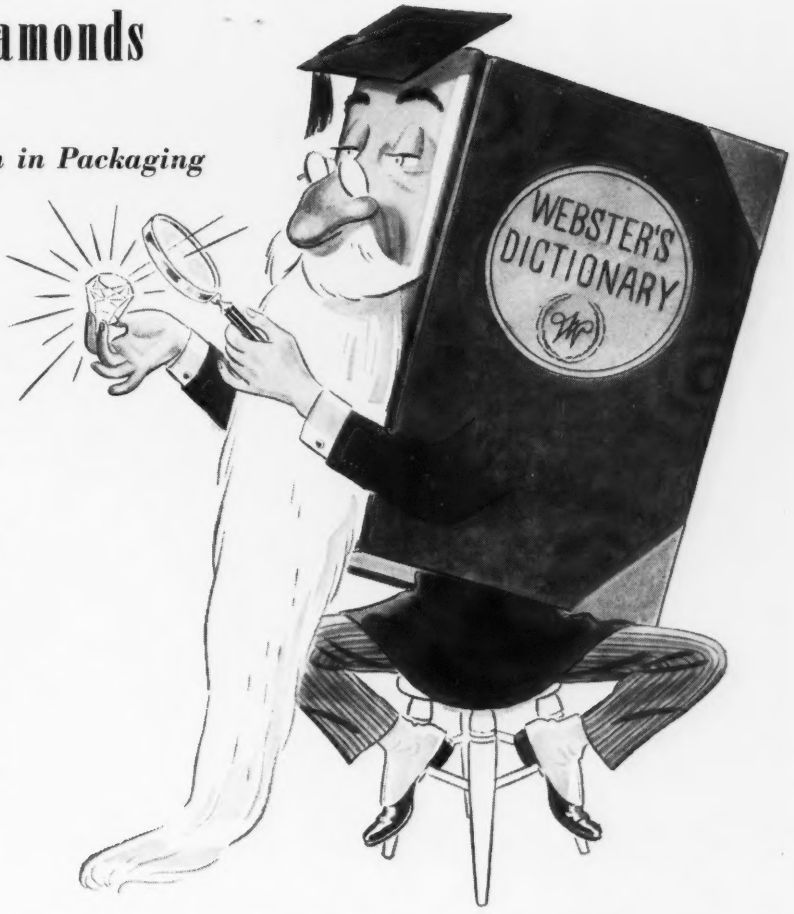
Sales Offices: Atlanta • Baltimore • Boston • Bridgeport (Conn.) • Buffalo Charlotte (N. C.) • Chicago • Cleveland • Denver • Detroit • Houston Kansas City • Milwaukee • Minneapolis • Newark (N. J.) • New York Philadelphia • Pittsburgh • Providence (R. I.) • St. Louis • Utica (N. Y.)
Pacific Coast Sales Offices: San Francisco • Los Angeles
Pacific Northwest Sales Offices: Wenatchee (Wash.) • Yakima (Wash.)
In Canada: The Nichols Chemical Co., Ltd. • Montreal • Toronto • Vancouver

OTHER GENERAL CHEMICAL PRODUCTS FOR THE SOAP INDUSTRY

MURIATIC ACID • ALUMINUM CHLORIDE SOLUTION
SULFURIC ACID • ALUMINUM SULFATE
SODIUM BISULFITE • SODIUM HYPOSULFITE
SODIUM METASILICATE
SODIUM PHOSPHATES—DI and TRI
SODIUM SILICATE SOLUTION • SODIUM SULFATE
and a complete line of B&A Reagents

What the Dictionary doesn't say about Diamonds

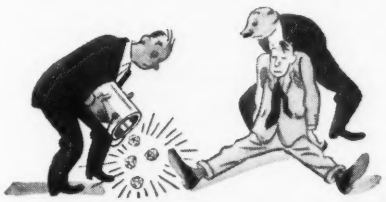
Story of a Problem in Packaging



WEBSTER TELLS US that "diamonds are native, crystallized carbon, highly valued when transparent and free from flaws."

What Webster *doesn't* tell us about diamonds would fill volumes. He *doesn't*, for instance, tell us that there are diamonds in 5-gallon pails . . . those well-known, standard containers for oil paint which the packaging industry has used for years.

And yet, the packaging industry has been finding "diamonds" (of course, not



in the literal sense) in this familiar container. For, in recent years, its uses have been broadened. And the packaging industry has reaped the added benefits. *The story follows.*

Back in the early 20's, a new-type paint for automobiles was developed—a paint with a nitrocellulose base.

This nitrocellulose paint was easy to manufacture, could be sprayed on rather than brushed on, and it dried fast—much faster than oil paint.

But as far as the 5-gallon pail was con-

cerned, the new paint was a dud. For it ate the dickens out of the pail lining.

So, the scientists at American Can Company went to work and developed a lining which would "hold" paints with a nitrocellulose base. And, of course, made this new product available to millions more users.

Call this the *first* diamond the packaging industry found in 5-gallon pails. Here are some more:

"Why not," said our research staff, "develop some *other* linings for 5-gallon pails? Why not make a lot of different products available to more users in this inexpensive, efficient container?"

Today, soap, insecticides, adhesives, mince meat, maraschino cherries, and chopped fruit, rest just as snugly and securely in the well-known 5-gallon pail as oil paint did years ago.

We believe we've reason to be proud of this story about the 5-gallon pail. For it shows how our research did not stop with solving a specific problem. But went on

and applied what had been learned to other, similar problems. Thus—not only the paint industry but a number of other industries reaped the benefits.

American Can Company, 230 Park Avenue New York, New York

CANCO

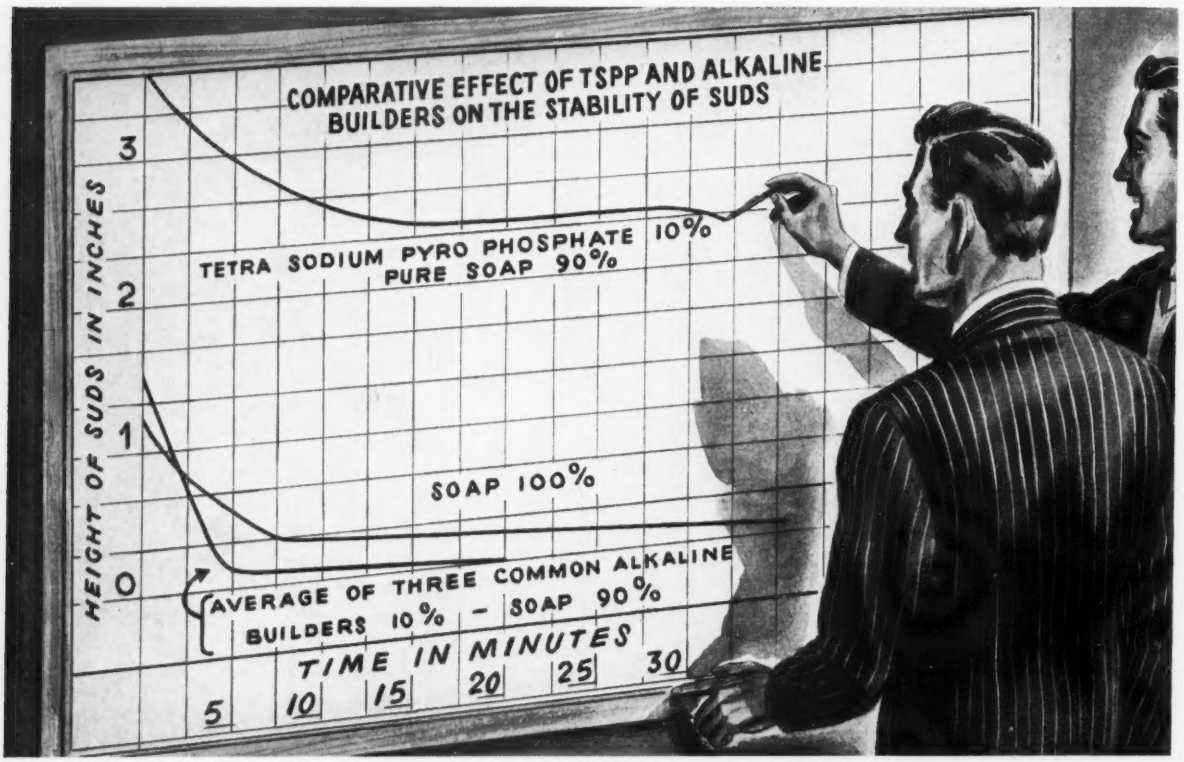
The Power American Can Brings To Packaging Problems

- 5 laboratories employing 134 people with college training, academic, or professional degrees in the pure, natural, or engineering sciences.
- 13 points from which customers' machinery is serviced . . . 6 points at which customers' machinery is built.
- 67 plants located strategically in the U. S., Canada, and Hawaii.
- A factory-trained sales staff who are specialists in many different types of industry.
- An executive personnel backed by a financial strength that is in itself a tangible business asset.

AMERICAN CAN COMPANY

230 Park Avenue, New York, N. Y.

★ *Here's How to Make* ★
BETTER SOAP-POWDERS AND CLEANERS



TSPP IMPROVES SOAP-CUTS COSTS

THE unusual combination of properties gives Du Pont T S P P many advantages over other products commonly used with soap or alkalies.

When you can offer customers a combination soap that gives three times as much suds as pure soap—and at less cost—you have a real sales story and a real saving.

The chart above shows the superior sudsing *power* and *stability* of T S P P as compared to alkaline builders. T S P P also *prevents the formation of sticky scum, prevents iron stains, improves rinsing, is mild enough for cleaning delicate fabrics and will not harm the hands.*

T S P P adds most of these advantages to alkaline cleaners. In particular is its *ability to disperse and suspend dirt, solubilize and disperse iron compounds* and its *water softening action.*

Because it costs less by doing more it will pay you to include Du Pont T S P P in your soap and cleaner formulas. Additional information will be found in the new Du Pont T S P P bulletin. Write for your copy today. (On your company letterhead, please) E. I. du Pont de Nemours & Company (Inc.), Grasselli Chemicals Department, Wilmington, Delaware.

DU PONT REG. U. S. PAT. OFF.

TETRA SODIUM PYROPHOSPHATE

HYSAN MOVES

Remember the old melody, "You made me what I am today, I hope you're satisfied." That's us. Your orders for Super-Wax and all the rest of our sanitary products have forced us to take three times the space—buy more machinery and equipment—expand our laboratory facilities . . . to keep on giving you the service, the deluxe quality—the sales-making, profit-producing, better packaged merchandise that has made Hysan . . . the No. 1 source of supply for the sanitary products trade. You made us what we are today. Thanks a million!

MORE IMPORTANT THAN EVER . . .

Javonella

PERFECT FOR PERFUMING

★ Laundry Soaps ★ Washing Powders ★ Liquid Cleansers ★ Polishes, etc.

EVEN when oil of citronella, sassafras, etc., were low in price and easy to obtain, JAVONELLA was a reliable favorite. A great many manufacturers preferred its finer, cleaner odor, its uniform quality and consistent economy. And now that Citronella and other natural products are high in price and difficult to get, JAVONELLA is more important to you than ever before.

WRITE FOR SAMPLES AND QUOTATIONS

FELTON CHEMICAL COMPANY
603 Johnson Ave., Bklyn, N. Y.

Manufacturers of AROMATIC CHEMICALS, NATURAL DERIVATIVES, PERFUME OILS, ARTIFICIAL FLOWER AND FLAVOR OILS. BRANCHES IN PRINCIPAL CITIES.

KORK-N-SEAL BRIGHTENS SALES PROSPECTS FOR SLICK SHINE PRODUCTS

KNOWING that housewives are keenly interested in anything which saves time and effort, The Slick Shine Company, Newark, New Jersey, caters to this preference by capping their products with KORK-N-SEAL . . . the off-in-a-jiffy, on-with-a-snap closure that makes both glass and tin containers *easier to use!* To learn how KORK-N-SEAL will help *your* product meet consumer preference more completely, write: **Williams Sealing Corporation, Decatur, Illinois**— *a division of Crown Cork and Seal Company.*

ICED
COFFEE

BLENDED FOR EXACTING TASTES

Combining coffees from different parts of Latin America in carefully balanced proportions, the coffee blender creates new flavors, new aromas to please the most exacting coffee-drinker's taste. The blending calls for a thorough knowledge of coffee gained by long experience – and for a special gift that enables the blender to sense the combinations that will stimulate sales demand.

The blending of perfume and cosmetic odors, too, calls for both specialized experience and an extra, intuitive sense for perfume materials. It is because the chemists of Givaudan's staff possess both these qualities to an unusual degree that Givaudan odors have been so successful in increasing the merchandising appeal of a wide variety of cosmetic products. Leading manufacturers of perfumes and cosmetics have found in Givaudan's skill a means of increasing sales or reducing production costs.

Many Givaudan products are suitable for use in an entire line of cosmetics; others are specially developed for use in a single item. Whatever your odor problem, you can profit by the assistance of Givaudan's staff.

BROADENING THE SOURCES OF SUPPLY FOR ESSENTIAL RAW MATERIALS

The shortage of essential raw materials of foreign origin is becoming increasingly severe, and many products are now completely unobtainable.

Counterbalancing this shortage, Givaudan's consistent policy of product research and development is constantly making new substitute materials available. Artificial Geranium Bourbon, Bergamot Artificial, Vetivert Bourbon Artificial, Resin Orris Artificial, Mousse de Chene Artificial, Patchouli Artificial, Rhodinol A.A., and Ylang Ylang Artificial are among the American-made products that have been developed in Givaudan's laboratories, and new ones are continually being added.

You can help to safeguard your sources of supply by investigating these Givaudan products. Samples and complete information are available on request.

Photo, Courtesy of the Pan American Coffee Bureau

GIVAUDAN-DELAWANNA, INC.

330 WEST 42ND STREET • NEW YORK, N. Y.

ONE ORDER COVERS YOUR COMPLETE NEEDS for Caustic Soda, Caustic Potash and TSPP

It works to your advantage when you concentrate your purchases of Caustic Soda, Caustic Potash AND TSPP with Warner.

You get (1) one standard of quality, (2) one guarantee of prompt delivery, (3) one technical service . . . from the ONLY manufacturer of ALL three of these important chemicals.

Why not save time, money, bookkeeping by placing your next order for CAUSTIC SODA, CAUSTIC POTASH and TSPP with Warner? Write, wire or phone for prices and samples.

TETRA SODIUM PYROPHOSPHATE (TSPP) • CAUSTIC SODA
SODIUM PHOSPHATES (mono, di- and tribasic) • CHLORINE, LIQUID
POTASSIUM PHOSPHATE (dibasic) • and other chemicals

WARNER CHEMICAL COMPANY

Division of

WESTVACO CHLORINE PRODUCTS CORPORATION

Chrysler Building, New York City

THEY KNOW what they want (AND GET IT)

Jobbers' customers have bought enough "BEAMAX" to wax a one-foot-wide strip nearly 6 times around the world

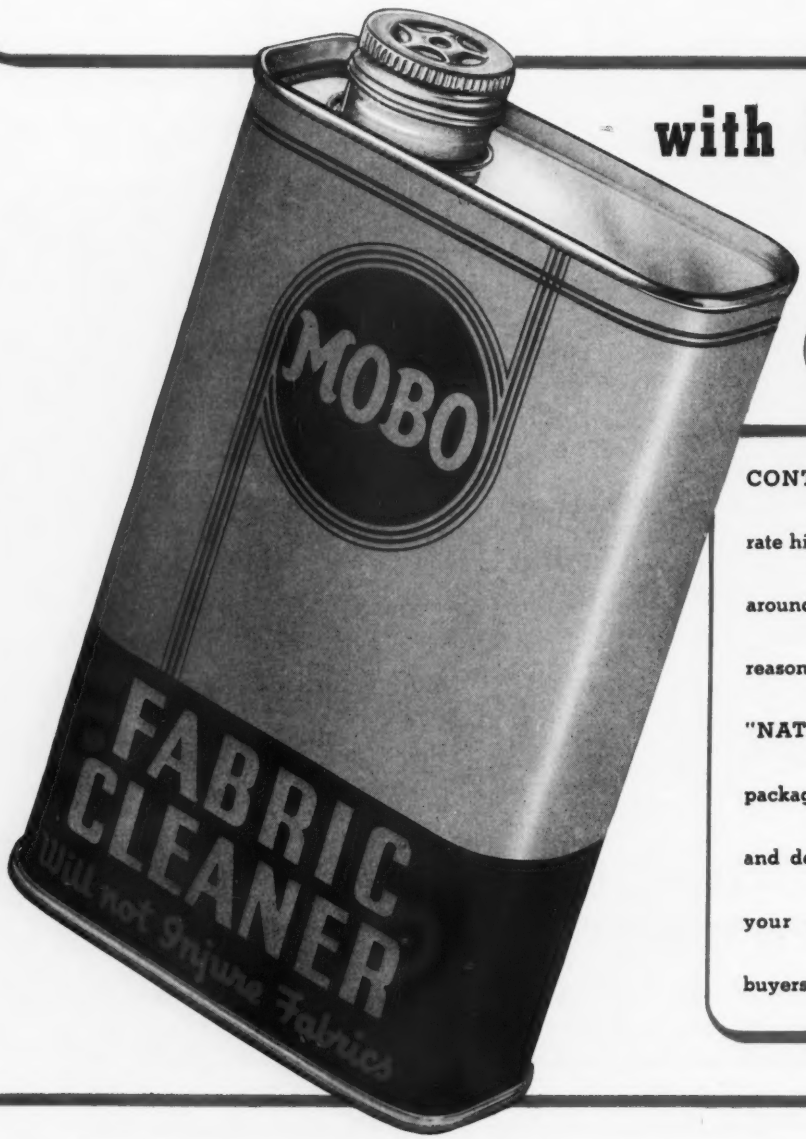
YEARS OF USER-SATISFACTION ARE BEHIND THIS PRODUCT

"BEAMAX" is well known to thousands of users as a lustrous-drying Liquid Wax that always delivers full value. Economical—because a thin coat dries in a few minutes to a hard, lustrous beautiful finish, without polishing. It smooths itself. All types of floors—including rubber, wood, linoleum, rubber tile, asphalt tile, mastic, terrazzo and cement — are easily kept clean by sweeping or using a dry mop. "BEAMAX" will not solidify in storage. It has no unpleasant odor. Samples and prices of "BEAMAX" will be sent to you on request.

THE DAVIES-YOUNG SOAP COMPANY
DAYTON, OHIO

"NATIONAL CAN"

Matches *Product* QUALITY



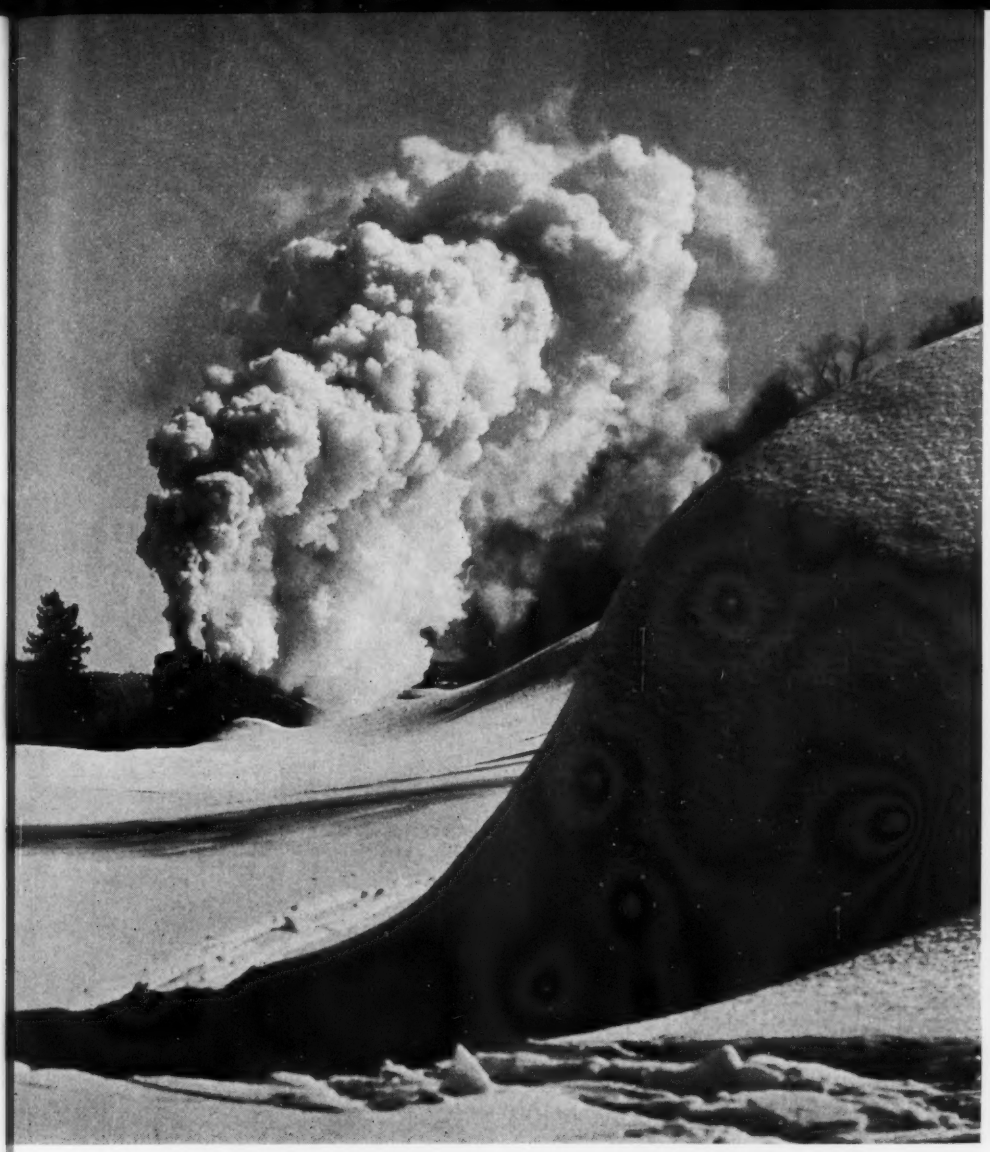
with PACKAGE *Style!*

CONTAINERS like this rate high in POPULARITY around store counters . . reason enough to consult "NATIONAL CAN" on package style . . on design and decoration that forces your product to meet buyers *easily* and *often!*

NATIONAL CAN CORPORATION

EXECUTIVE OFFICES: • 110 EAST 42nd STREET • NEW YORK CITY

Sales Offices and Plants • NEW YORK CITY • BALTIMORE • MASPETH, N Y • CHICAGO • BOSTON • DETROIT • HAMILTON, OHIO



Snowbound

In March of 1940, a seasoned salesman was snowbound in Boston when all traffic by rail and road was paralyzed. Due in New York, his predicament enforced his first plane trip. For years he had traveled by train and while he comfortably slept in Pullmans, aeronautical engineers were contriving better design and safety in air transportation. When his faithful train failed, the modern plane was ready to do the job, and well.

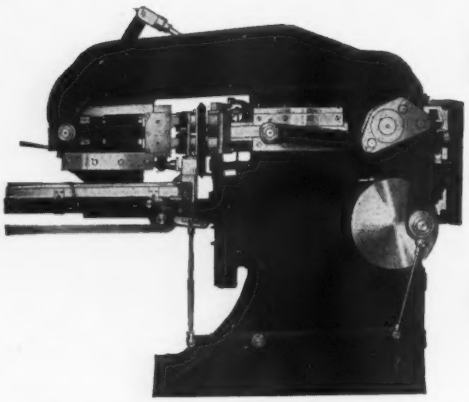
In times like these, when regular supplies of essential oils and raw materials have failed, the call for synthetics and substitutes, is raised. And the answer, "ready", is heard from the ranking firms in our industry who have, through the less hectic years, kept their research laboratories awake to new methods, new processes and new products.

Bergamot, Lavender, Geranium, Ylang, Orris and many other materials, are practically unobtainable, but synthetics and truly excellent synthetics, are ready to jump in and fill the gap just as the airlines were ready when rails were snowbound.

If your stocks are low, check with van Ameringen-Haebler on these exceptional synthetics.

VAN AMERINGEN-HAEBLER, INC.
315 FOURTH AVE NEW YORK CITY

JONES
TOGGLE MOTION PRESSES



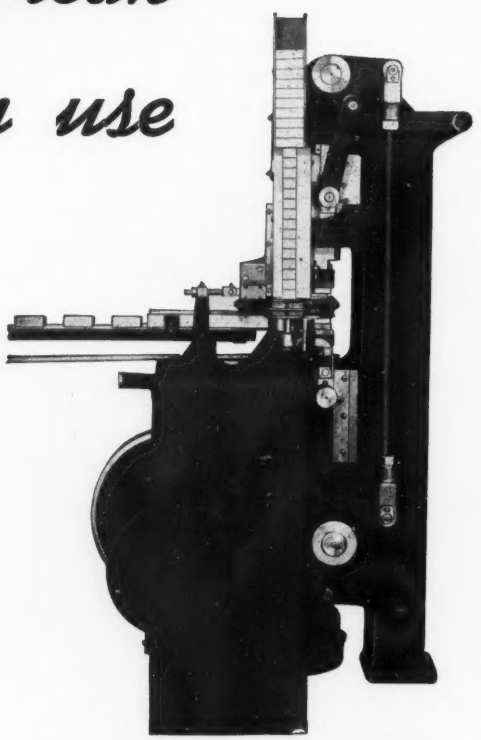
Type K Laundry Soap Toggle Press

produce soap cakes that do not crack and break up in use

Soap cakes that are stamped — not pressed — that are formed by a sudden blow rather than a slow squeeze are apt to crack in use.

The long slow squeeze of Jones Toggle presses give soap stock time to coalesce into solid cakes that wear away in use without cracking.

Toggle presses also produce the finest possible finish and create a desire for possession never achieved by any other means.



Type ET Toilet Soap Toggle Press

R. A. JONES & COMPANY, Inc.

P. O. BOX 485 CINCINNATI, OHIO

The Standardized Constant Motion Cartoner packages, bottles, jars, tins, collapsible tubes and many other articles. It feeds, folds and inserts direction sheets and corrugated board liners with the loads.

AS THE EDITOR SEES IT

FROM a recent talk by a well-known soap executive comes a piece of advice to soapers which should be well considered. This advice was to avoid selling too much soap, that is taking orders for more soap than you might have comfortable plant capacities and raw materials. In the light of present equipment and raw material outlooks, the soap manufacturer who books himself up too heavily on orders in the hopes of expanding his production, is likely to find himself in hot water before he has completed deliveries. And thus, the essence of the advice was not to overreach yourself in the present market where it is easier to sell soap than it is to buy materials from which to make it.

This counsel to the soap industry at large, we sense, should be taken very seriously. Further restrictions on raw materials and equipment for the soap manufacturer seem to be distinct future possibilities, all naturally growing out of needs of the national defense program. With this apparent threat lurking on the horizon, it is obvious that to oversell oneself right at this time would be rather shortsighted policy.

THE recent decision handed down by the Circuit Court of Appeals in Chicago, upholding the right of J. Eavenson & Sons to refuse to re-hire striking employees guilty of acts of violence resembles the classic news story example, "Man bites dog." It is not often that an employer wins a decision against the National Labor Relations Board, and yet that is just what the soap company has done in this case, reversing on appeal the original decision which adjudged the company guilty of unfair labor practices. The decision of the circuit court seems to us a significant one in its bearing upon the labor picture. In short, it rules that when the striker resorts to violence, he loses some of his rights. If not reversed by a subsequent decision of a higher court, it may stand as an important milestone in the derivation of a sensible American labor policy.

FROM the Office of Production Management in Washington comes a warning that small firms will suffer most in coming months as a result of priority curbs. Speaking before a conference of officials, Peter R. Hehemkis, Jr. of the O.P.M. stated bluntly that the present program of production for defense might go so far as to wipe out certain small industries and the small companies which go to make them up. This nation, says Mr. Hehemkis, has embarked upon our present gigantic defense program "in order that the foundations of democracy at home and abroad shall not be destroyed," but that these foundations shall be strengthened.

That these remarks from an official of the O.P.M. are disquieting, is to put it mildly. They carry a very ominous note, a note which to us sounds like a serious threat to that very democracy that we are girding our loins to defend. Wipe out small industry! Small companies will suffer most! But says

the official, these small companies must be helped, must be saved if possible,—not because it is just and right to aid them, but to prevent them from becoming the disgruntled nucleus of what might develop later into a "fascist dictatorship in the United States."

For every large company in the United States, there are a hundred or more small ones. The reaction of these small firms, especially those in non-defense industries, to such openly expressed views is bound to engender hostility to the O.P.M. No small firm, faced with extinction or a government dole, is going to accept the situation lying down. They will fight back, even though the odds are all against them, to the detriment of the defense program. Priorities are of necessity essential, but unless they are enforced with care, and with intelligence based on an intimate knowledge of their requirements and complete effects, it may require eventually something akin to "a fascist dictatorship" to enforce them.

Already, there are rumblings in industry that priorities are being enforced to the accompaniment of too much hysteria and too little knowledge based on facts. If true, it is not very reassuring, and should be corrected. At the same time, it might not be amiss for the O.P.M. to gag some of its officials, particularly those who seem to specialize in scaring hell out of small industry.

CARELESS dishwashing in public restaurants is receiving ever increasing attention from health officials. Eating utensils and dishes are being suspected more and more as the means of transferring disease infection from one person to another, particularly as investigations have shown that improper washing is more the rule than the exception. Recently, the City of Philadelphia and the State of Nebraska have taken action to stiffen the requirements in the manner in which dishes and silverware are washed in public restaurants. This is an indication of the growing consciousness of this problem among public officials and of the fact that they intend to do something about it. The trend deserves the full support of all manufacturers and distributors of soaps and detergent materials.

ONCE upon a time, it was the quaint custom for salesmen to sell goods. When they weren't sitting in the movies on hot afternoons, they were wearing out their shoes racing from customer to customer, all in the quest of orders. By begging, pleading, flattery and cajolery, and in the face of like activities on the part of competitors, they managed now and then to bag an order. Rushing to the nearest cigar store, they phoned the order in, urging that shipment be started at once before the buyer changed his mind. Once in a while, rumor has it, some salesmen even went so far as to cut the price a little as a special inducement.

But those days have gone, at least for the time being. Now, it's the purchasing agent who does the seeking. Orders are too plentiful. If a salesman wears out his shoes, it's making the rounds to explain why that caustic potash which was promised last month will be shipped about August 15th. Cancellations of orders now merit a special letter of thanks from the vice-president in charge of sales. Sales bonuses are being based on how *little* in the way of goods are shipped each month, and a smart salesman is one who stays *under* his quota of shipments.

All in all, it's a cockeyed state of affairs, a state which invariably grows out of war conditions, an unnatural, unhealthy state reflecting supply and demand sharply out of adjustment. Of course, it must end, like any whirl of the dervish, and when it does, there will probably be a few purchasing agents with bones to pick,—and the now overworked salesmen can take up where they left off in putting a nice new shine on their pants in the movies.

SOAP SPECIFICATIONS

WHAT THEY SHOULD AND SHOULD NOT COVER . . . .

By H. P. Trevithick

Bureau of Chemistry, N. Y. Produce Exchange

NO really general specifications for soaps and other detergents had ever been written prior to 1936. For many years the Federal Specifications Board had written some specifications for products used by the Government, particularly by the Services, and also some State and Municipal Departments of Purchase had tried to write some for their own purchases. All of these specifications suffered because they were written entirely by consumers, with no consideration being given to producers and their problems of manufacture. In particular, many of these specifications had slight variations in their limits for many items, resulting either in compelling manufacturers to have their products pass the closest limits on all the various specifications to be sure to be able to meet all requirements, or else to manufacture small lots for each sale, a very expensive proposition. Specifications should be so drawn that the standard material, produced by carefully controlled processes in good factories, will pass the requirements, and they should not contain "trick" specifications which would require special handling in manufacture.

Over the course of a number of years, the American Oil Chemists' Society has developed and written very satisfactory methods of analysis for soaps and detergents, but does not write specifications at present.

After studying the problem for several years, the American Society for Testing Materials formed a committee, D-12, to write specifications for soaps and other detergents. As with all other committees of the ASTM, this committee consists of producer, consumer and general interest members, with the specific requirement, applicable to all these committees, that the consumer and general interest members shall be not less than 51 per cent of the total membership of the committee. This committee has worked on this problem for five years, and has written quite a few specifications, not only for various soaps but also for other detergents such as caustic soda, soda ash, phosphates, silicates, etc.

Soap is such a well known commodity that the writing of a definition seems very simple, and yet, Committee D-12 of the ASTM was compelled to spend considerable time writing and rewriting such a definition, which now reads as follows: Soap—The product formed by the saponification or neutralization of fats, oils, waxes, rosins, or their acids, with organic or inorganic bases.

Soap, as commonly understood, is usually the sodium or potassium salts of fatty acids, with or without the addition of rosin. In writing specifications for it the methods of manufacture, hot, cold or semi-boiled, and the uses to which the soap will be applied, must be considered.

Specifications are never written until a product has been developed and used; the difficulties encountered in its use will then establish the items which need to be specified, and similarly, those items which are unnecessary.

Most specifications for soap include one or more of the following items:

- Moisture, maximum per cent
- Sum of free alkali, total matter insoluble in alcohol, and sodium chloride, maximum per cent
- Free Alkali, calculated as NaOH, maximum per cent
- Free Acid, calculated as Oleic, maximum per cent
- Matter insoluble in alcohol, maximum per cent
- Matter insoluble in water, maximum per cent
- Salt, calculated as NaCl, maximum per cent
- Unsaponifiable saponifiable matter, maximum per cent
- Rosin
- Sugar
- Foreign matter
- Anhydrous soap
- Titre
- Iodine Value
- Saponification value
- Particle size

They should also include in every case, the methods of sampling and analysis.

Further, since soap is subject to gains or losses in weight, due to changes in moisture content, depending on atmospheric and storage conditions, all specifications should contain a formula for calculating the weight and analysis, as received, to the weight and analysis of the material when shipped.

Soap as made by the boiled process contains 35 per cent of water because in salting it out the soap

retains that amount in forming a good "neat" soap; and of course some soaps are finished without the removal of this water, particularly laundry soaps, "boiled down" soaps, etc. However, when "powdered" and "chip" soaps are made, the soap must be dried in making these products, and the moisture content is then reduced to 12 per cent, giving 88 per cent soap, or 8 per cent, giving 92 per cent soap. It is therefore necessary to have a specification for moisture on almost any soap.

When soaps are stored, the moisture content will change according to climatic conditions, and in most cases, the moisture dries out. This creates a shortage in weight, but since no actual soap is lost by this drying out, the buyer does not lose in actual value. However, if a claim for short weight is made, the seller is unjustly penalized because the shortage in weight is due to evaporation of water. For that reason, we have usually added a clause in our specifications, referring to this variation in moisture content, and a formula by which the original weight shipped can be calculated. We always set an average normal moisture content for the particular type soap, covered in the specifications, and then use the following formula:

$$W = \frac{R \times (100-L)}{(100 - \text{normal moisture})}$$

Where W = net weight purchased, or to be paid for
R = weight received
L = moisture content as received

By this formula we calculate the actual shipping weight, and correct value of the merchandise. If W = more than 100 per cent, the buyer waives the right to invoice for the excess. On materials which do not change their moisture content during storage and shipping, this clause is not necessary, but it is very valuable on soaps and similar products.

THE sum of the free alkali, alcohol insoluble, and salt, gives a very good perspective of the type of material other than soap present in the sample, and is a very valuable item in most specifications.

Free alkali is left in small amounts in practically all soaps, the amount varying from 0.1 per cent in good toilet soaps to 0.5 per cent or more in rough cleansers. It has a slightly harsh roughening effect on the skin, if present in too large amounts, but, according to some theories on soap detergency, a slight amount is necessary for satisfactory cleaning. In rough cleansers, particularly in soap powders used for cleaning floors, etc., 0.5 per cent or more is necessary to properly wash the floors. In such cases, mops and wringers are used, so that the hands do not need to come in contact with the free alkali.

Free acid is sometimes left in soaps due to incomplete saponification, or is added to them due to a desire to have a soap absolutely neutral or containing no free alkali.

The matter insoluble in alcohol includes the carbonates and bicarbonates, a portion of the salt, any incidental impurities of the fat or alkali, and any fillers such as pumice, silicates, talc, etc. This item should be included in nearly all specifications as it separates toilet soaps from all other types of soap, and indicates whether any fillers have been added.

The matter soluble in alcohol contains the soap and moisture, and this figure, minus the moisture, has been considered by some analysts as the true soap. This, however, is not necessarily true, as any other material in the soap which is soluble in alcohol, would be calculated as soap. Thus, sugar and glycerin would be soluble in alcohol but are certainly not to be classed as soaps. At times when glycerin was very cheap, we have received samples containing 6 to 7 per cent of glycerin which the producer, by the above method of calculation, was reporting as soap. A test for the true anhydrous soap present disclosed the truth.

The matter insoluble in water should also be included in most soap specifications. This item shows the presence of any filler such as talc, silica, pumice, etc., and also, when fillers are absent, is an indication of the cleanliness of the raw materials, and the care used in manufacture. If the test is made on the alcohol insoluble matter, care must be taken not to dry the alcohol insoluble before adding the hot water, as any water soluble silicates present will become dehydrated by the heat and so water-insoluble, leading to erroneous results.

A specification for salt is also valuable. The amount of salt present indicates the care used in washing the soap. In the small amounts present normally, however, it does not affect the lathering and detergency powers of the soap.

A specification for unsaponified saponifiable matter is sometimes valuable, particularly on superfatted toilet soaps, where the presence of small amounts of fat tend to have a softening effect on the skin, neutralizing the effects of the free caustic. Ordinarily there is none left in boiled soaps, as all the fat has been saponified in the process of manufacture. Cold process and semi-boiled soap may contain unsaponified fats, and in some boiled toilet soaps excess fat may be deliberately added for the softening effects.

Rosin is added to laundry soaps for two reasons. It is cheaper than fat and thus reduces the cost of the soap, but it also has detergent values of its own and thus can not be considered an adulterant. It is a valuable ingredient of laundry soaps, but is not used in toilet soaps. Thus specifications for toilet soaps usually include an item "free from rosin." However, during some recent work in the Naval Stores Laboratories of the Department of Agriculture, Messrs. Speh and Pohle found that rosin soaps have marked germicidal properties and it may well be in the future that rosin may be used in soaps intended for medical purposes, public bathhouses, pools, etc.

Sugars are used in making soaps transparent, but in all soaps, other than transparent soaps, they add nothing to the value of the soap and the phrase "sugar free," could

well be used in most toilet soap specifications.

ANHYDROUS soap means the actual amount of real pure soap present in the material. This is the actual soap in the product being manufactured and sold, and all soap specifications should include this item. This is important not only in all toilet and laundry soaps, including chip and powdered soaps of 88 per cent and 92 per cent soap content, but is especially valuable in soap powders.

Soap powders are a mixture of soap and one or more builders, usually soda ash, and as the soap is valued at ten times the value of the soda ash, the amount of soap present should determine the price of the soap powder. Standard soap powders should contain a minimum of 15 per cent of soap, but there are many alkaline detergents on the market containing much smaller amounts of soap, even as low as 2 per cent. Such compounds have value in doing rough cleaning on floors, etc., particularly where the cleaning people do not appreciate values and waste much of the cleanser, but it is manifestly unfair competition to sell them in competition with the standard powder containing 15 per cent of soap. They should be priced on the actual soap content.

Titre is an item of particular value to the chemist, to give an idea of the source of the fat, but it is also useful in evaluating soaps for textile use, as it gives a good indication of the solubility of the soap and the ease with which rinsing will remove it from the fabric. Higher titred soaps are less soluble and more firm, and therefore are valuable as toilet soaps, but low titred soaps are more soluble and therefore more easily rinsed from textiles.

Iodine value and saponification value are only of interest to the chemist except where soaps contain a specification that a particular fat or blend or fats must be used, and then these values and the titre would indicate whether that particular requirement has been fulfilled.

Lathering can be measured fairly satisfactorily but is not a good item for specifications, except where it is used as a general term, without specific limitations. Thus we can and do specify that certain soaps "shall lather freely in soft water," but we do not specify exact details and limitations of this test.

WHAT FUTURE FOR BABASSU?

How satisfactory and dependable a source of supply would babassu oil make for Philippine coconut oil if supplies of the latter should be cut off? Can soap makers expect any increase in available stocks of this Brazilian produced raw material? What kind of a working oil does it make in the soap kettle? The answers to these and other allied questions will appear in an article on BABASSU OIL in our August issue.

Detergency is another item which has been discussed and studied for many years. A commitee of the American Oil Chemists' Society worked on this problem for many years, using the launderometer, but there were so many variables that the committee could not evolve a satisfactory standard test, which would give concordant results in different laboratories. One of the sections of Committee D-12 has also worked on this problem for five years and seems now to be optimistic of achieving results, but the problem is not yet solved to the point where we believe that a satisfactory procedure can be established.

Particle size is of value only for powders to indicate the fineness of the grinding. A satisfactory procedure for sifting such samples has been arranged but few of the specifications already prepared have needed or carried actual limits for sifting tests.

The use of standard specifications such as the ASTM has prepared is very advisable. These have been prepared with the assistance of all the major soap producers, and represent standard articles of merchandise, which are produced in large quantities, and priced reasonably. If these standard specifications are modified, changes in production are entailed, which always increases costs. Sometimes, even a separate batch will have to be prepared for particular orders on such changed specifications and this is a very expensive procedure. It is always advisable to use standardized merchandise, if possible, as the quality of such products is always dependable, and usually satisfactory to the consumer.

The use of standard methods of analysis is essential, also. These methods have been written by the American Oil Chemists' Society, and the American Society for Testing Materials, and have been adopted by the American Chemical Society so that the three societies have identical methods. If any other methods are followed in sampling or analysis, the results will naturally be different and a fruitful cause of unending argument. These ASTM specifications have been written and adopted after collaborative testing by these methods of analysis and the limits in the specifications are based upon the results of this work. Any other methods of test will give results varying from those given by these methods.

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To clean military boots, first rub with a fat solvent such as one containing 70 parts of carbon tetrachloride and 30 parts of benzine or tetraline. Or a warm soap solution containing 5 parts of oleic acid soap dissolved in 40 parts of water and mixed with 7.5 parts of 25 per cent ammonia, and 7.5 parts of denatured alcohol in 40 parts of water, may be used. After the boots are dry a mixture of fish oil and mineral oil is rubbed in with a soft cloth. This soaks into the leather in a few hours. Excess oil is then rubbed off and the boots polished with wax to give the leather its original luster. *Seifensieder-Ztg.* **68,** 84 (1941).

PALMAROSA OIL

A survey of the production, markets, and important characteristics of palmarosa and gingergrass oils

By Dr. Ernest Guenther

Fritzsche Brothers, Inc.

PALMAROSA oil, sometimes called Indian or Turkish* geranium oil, is derived from the grass, *Cymbopogon Martini* Stapf, which occurs in two varieties: viz. *motia,* the over-ground parts of which yield palmarosa oil, and *sofia,* giving the inferior gingergrass oil.

Stapf[1] claims that no morphological difference can be found between the two varieties, if single specimens of dried plants are compared. According to J. H. Burkill,[2] the difference is noticeable only by the distinct field habitat of the two varieties. Physiologically however, the *motia* and the *sofia* varieties differ materially in regard to their essential oils. Burkill noticed that the characteristics of *motia* and *sofia* vary according to locality and depend upon the conditions of growth. He even observed grasses which are probably crosses between *motia* and *sofia.* The pictures taken by the writer in the Botanical Garden of Buitenzorg, Java, show the two varieties as grown experimentally on neighboring plots under identical conditions.

Both *motia* and *sofia* occur wild in the mountainous regions north and northeast of Bombay, British East India. The native oil producers have no difficulty distinguishing between the two varieties which never occur side by side but in separate patches growing at different altitudes and environments.

Motia seems to prefer dry soil of basaltic decomposition, on open and sunny slopes with southern exposure or sunny clearings in sparsely wooded land. Stagnant water is detrimental to its development; the average rainfall ranges from 32 to 35 inches. *Sofia,* on the other hand, grows best on moist soil in lower altitudes and valleys, in dense forests kept humid by ample dew and frequent fogs. *Motia* grass usually occurs in small patches and tufts one or two feet apart, while *sofia* grass grows densely and frequently covers larger areas.

Thus, we find in East India two related types of oil:

1.) The true palmarosa oil as distilled from *Cymbopogon Martini* Stapf var. *motia.* It has a much finer odor and a much higher geraniol content than

2.) Gingergrass oil as distilled from *Cymbopogon Martini* Stapf var. *sofia.*

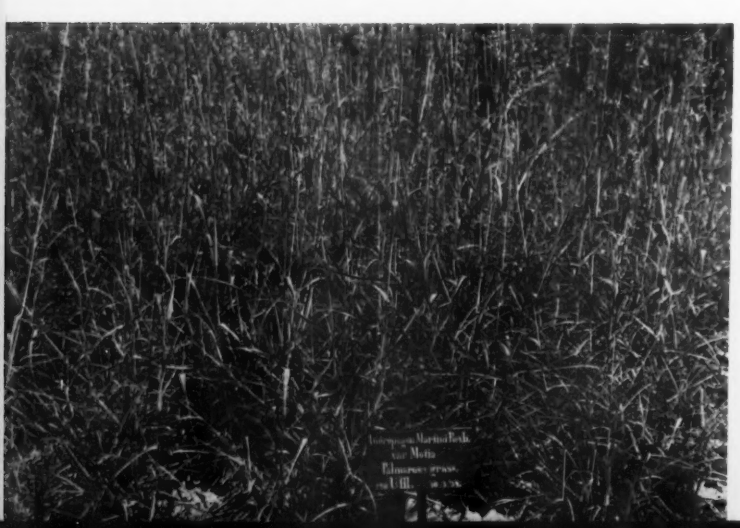
Of these two oils the more important is, of course, palmarosa.

East Indian Palmarosa Oil

By far the greater part of palmarosa oil is still produced in British East India. In the Seychelles Islands, too, efforts are being made to raise this plant and, in order to arrive at a very high quality of oil, the extermination of gingergrass has been ordered. Java, also, has begun to grow palmarosa grass and to export increasing quantities of oil which is of a somewhat different but good quality.

As mentioned above, palmarosa and gingergrass do not grow side by side, but are, nevertheless, frequently found in near-by patches. This proximity sometimes tempts native producers to cut and distill the two varieties together although they

*The term Indian or Turkish geranium oil, which formerly was sometimes applied to palmarosa oil, dates back to those early days when the oil was shipped from Bombay to ports of the Red Sea and transported by land to Constantinople and Bulgaria.



An experimental growth of the "motia" variety of grass from which the true palmarosa oil is distilled. Photo taken at The Buitenzorg Experimental Station.

Palmarosa field in Java just before the harvest.

would have no difficulty in distinguishing between them. Of course, such oils are inferior but, fortunately, in most regions the cutters and distillers are more careful and work up palmarosa grass exclusively.

The main producing regions of palmarosa oil in East India, listed according to quality and importance, are as follows:

1.) The province of Berar in the "Central Provinces," especially the region of Melghat, with Ellichpur and Barhanpur as the most important centers. The oils produced there are of very high quality and contain 90 to 95 per cent of total geraniol.

2.) The region of Khandeish in the Bombay Presidency, with Nandurbar as center. The odor of this type oil, which has a total geraniol content of 80 to 85 per cent, is less fine. However, it is still true palmarosa oil.

3.) The state of Hyderabad. The quality is somewhat lower.

4.) The presidency of Madras and some parts of Bengal and Punjab, with Lyallpur as center. The oils produced there are mainly gingergrass oils.

The producing regions are wild and far off the beaten track. Production of oil is, therefore, carried out under utterly primitive conditions by the native tribes inhabiting those remote regions.

We have seen previously that in East India palmarosa is not planted; it simply grows wild over wide tracts of land. If the land is owned by private individuals, there are no restrictions against distilling the grass. If, however, the land is owned by the government, as is often the case, the cutting and distilling license is auctioned off to the highest bidding party. However, the contract with the government obliges the bidding party actually to cut the grass because otherwise the plants would spread, invading pastures and valuable land.

Palmarosa grass, like all *Cymbopogon* grasses, contains too much essential oil to serve as cattle feed. The government, therefore, is hesitant about granting the cutting rights to outsiders—dealers in Bombay, for instance — because such parties usually do not offer sufficient guaranty that the plants will really be harvested. The merchant or exporter thus works ordinarily through a middleman known both to the government and to the native distillers.

Before the harvest he contacts a man in one of the villages of the producing regions and provides him with funds. The agent procures the necessary distilling equipment and hires a crew of cutters,—who earn about 10 cents daily. The actual distilling is done by the members of certain native tribes or castes who have practiced this art for generations. These distillers collaborate with the agent on a sharecrop basis, retaining about one-quarter of the oil produced while the agent obtains about three-quarters. The distillers have the right to sell their share to whomever they please but usually they sell the oil to the agent, the price depending upon prevailing market quotations in Bombay. Of course, much oriental shrewdness is displayed in that sort of trading.

The distilled oil now belongs to the agent. As soon as the quantities are sufficiently large to warrant transport, the lot is shipped to the exporter in Bombay who had ad-

The "sofia" variety of grass yields the inferior gingergrass oil. Photo shows an experimental growth at The Buitenzorg Experimental Station in Java.

vanced the funds. The oil is stored in Bombay but still remains the property of the agent; it is only sold to the Bombay exporter or money lender when the latter recives definite export orders.

DISTILLATION takes place from October to December, even up to January, depending upon rainfall and the development of the grass which, after the flowering period, yields much less oil and oil of inferior quality. According to systematic experiments carried out by G. Lall,[3] the so-called "rusa grass" (*motia*) gives the highest yield of oil[4] at the beginning of the flowering season in October. From then on the yield decreases steadily until it reaches a minimum in March. The stalks contain only traces of oil, and the flowers a maximum of oil shortly after flowering. The best yield from the entire plant is obtained one week after flowering, according to the same investigator. While the tops of the grass contain most of the oil, it is not practical to cut only that part for distillation because the grass would exhaust itself by too rapid regrowth. In other words, the plants would grow again within a month but then contain much less oil. In actual practice, the coolies cut the grass close to the ground in order to obtain as much weight as possible.

Distillation apparatus and methods of distilling are about the crudest and most primitive employed in essential oil production. Three or four stills are usually set up along the bank of a river or pond and imbedded into an oblong stone hearth with open fire beneath. Sometimes a shed of palm leaves protects the distillers from the sun. The stills are either round and made of copper or cylindrical and made of iron. Their capacity is about 150 gallons, sometimes more. Several hundred bundles of grass are charged into a still and stamped upon in order to fill in as much as possible. The still contains some water from previous distillations which, because of the content of tannic acid, has become brown. Fresh water is, therefore, added until it almost covers the plant material. The still is then closed with a wooden plate and the joints sealed with mud paste which hardens with heat. A heavy stone holds the cover in place. Presently, an angular bamboo pipe is attached to the still through a hole in the cover. This pipe is held to the still with palm-leaf rope or with some other primitive wiring. The long arm of the bamboo pipe is wrapped with a cord and reaches into an oblong vessel which serves as condenser and simultaneously as Florentine flask. This receiving vessel stands up to its neck in water and is supported by a wooden frame beneath. The mouth of the receiving vessel, into which the bamboo pipe reaches, is covered with burlap. Wood cut in the near-by forests serves as fuel for the open fire.

The still content is then brought to a boil, and essential oil vapors and distillation water condense in the partly immersed receiving vessel. Distillation lasts four to five hours, including the time of heating the water in the still to the boiling point. Distillation over, the oil collected in the receiver is skimmed off the distillation water and thereby separated. Frequently, however, oil and water are not separated on the spot but the whole mixture is poured into galvanized iron containers of 2 to 4 gallons capacity. These vessels containing water and oil are then carried overland to the nearest village where an expert or the agent for the Bombay exporter separates the oil from the water by simple decanting. The oil is finally filtered through cloth into galvanized iron containers or drums. These drums usually hold 45 gallons and serve for storing the oil until the end of the harvest or until the filled drums can be shipped to Bombay.

If oil and water are not immediately separated near the stills, the oil is liable to remain in contact with water for several days which, of course, does not improve the quality. In general, the oil remains in iron drums for weeks and months, sometimes exposed to the heat of India's climate, which, together with the presence of a little water in the oil, is not conducive to good quality.

The yield of oil obtained by these primitive methods of distillation is not very good. It varies around 0.1 per cent but could undoubtedly be raised considerably if distillation were carried out in more efficient apparatus. In fact, R. S. Pearson[5] carried out experiments in 1915 and proved that distilling palmarosa with steam increased the yield from 20 to 100 per cent. In general, the quality of the oil suffers from the primitive methods of production, especially from the direct contact of the plants with the walls of the vessels heated by open fire and also from the inefficient method of condensation. It would not be surprising if the relatively low ester content of East Indian oils, as compared with that of the Java type, is a direct result of these conditions.

Shipping Palmarosa Oil

The exporters in Bombay leave the oil in the galvanized iron drums until they receive shipping orders from abroad. The lot is then filtered either through paper or, more often, through cloth and filled into the well known containers of palmarosa oil. These are made in Bombay and consist of copper, heavily tinned on both sides. They are, furthermore, protected on the outside by a net of heavy cord. These containers are quite expensive, a 250 pound vessel costing about $20.00, while regular galvanized drums cost much less. It seems illogical to ship in these expensive, old-fashioned copper drums after the oil has been kept in iron drums for many weeks, if not months. There is no reason why, with our modern shipping facilities on fast freighters, palmarosa oil could not be shipped like other and more delicate essential oils in the usual drums.

Physical and Chemical Constants

According to Gildemeister and Hoffmann,[6] East Indian palmarosa oil varies between the following limits:

Specific Gravity at 15° C.—0.887 to 0.900
Optical Rotation: +6° to —3° (Usually +1° to —2°)
Refractive Index at 20° C.—1.472 to 1.477

Acid Value—0.5 to 3.0
Ester Value—12 to 48
Ester Value after Acetylation—226 to 274 (Or 74.8% to 94.8%, calculated as Total Geraniol)
Solubility—Soluble in 1.5 to 3 and more parts of 70% alcohol, in rare cases with opalescence to turbidity. Oils of very high geraniol content are soluble in 3 to 5 volumes of 60% alcohol and more.

The shipments of East Indian palmarosa oil which we received during the last five years varied very little and showed the following constants:

Specific Gravity at 15° C.—0.888 to 0.895
Optical Rotation: —0°5′ to +2°26′
Refraction Index at 20° C.—1.4738 to 1.4760
Acid Value—0.7 to 0.8
Ester Content calculated as Geranyl Acetate—3.3% to 9.8%
Total Geraniol Content—85.4% to 92.4%
Solubility in 60% *Alcohol*—Soluble in 3 to 4 volumes and more.

Chemical Constitution

The presence of the following constituents has been established so far:

Geraniol, $C_{10}H_{18}O$, identified by O. Jacobsen[7] as main constituent and later described by Semmler[8] as the first aliphatic terpene alcohol found in essential oils. Palmarosa oil contains from 75 to 95 per cent of geraniol which occurs mainly in free form, partly (3 to 13 per cent) as ester. The acid components, according to E. Gildemeister and K. Stephan[9], are *acetic* and *n-caproic* acid.

Citronellol (?)—Flatau and Labbé's[10] contention that palmarosa oil contains also citronellol has been repudiated by the Schimmel chemists.[11] We hope to elucidate this point in a forthcoming investigation.

Farnesol — Elze[12] claims to have identified farnesol in oil of palmarosa. Its presence is indicated by the lily-of-the-valley like odor which develops in the evaporation residue when palmarosa oil is kept on a blotting paper for several days.

About 1 per cent of *dipentene* and traces of *methyl heptenone* have also been found.[13]

The small quantities of aldehydes occurring in the East Indian palmarosa oil, according to C. J. van Hülsen and D. R. Koolhaas,[14] consist of *citral*, traces of formaldehyde and probably *iso-valeric aldehyde*. According to a report[15] of the Trade Museum Department of the Colonial Institute Amsterdam, the aldehyde content of eight East Indian samples varied from 5.1 to 9.4 per cent, with an average of 6.7 per cent. Oils of our own importation, when analyzed in our laboratories, showed lower figures.

Adulteration

The main adulterant of palmarosa oil is the inferior gingergrass oil, the presence of which is indicated by an abnormally low total geraniol content of the suspected oil. The assaying is done by the usual method of acetylation and saponification of the acetylized oil. Oils with less than 75 per cent total geraniol should be rejected, the highest qualities of palmarosa oil assaying from 85 to 90 per cent and even more of total geraniol. Other adulterants used by the native distillers are coconut oil, which can be isolated by freezing, and turpentine oil, which is indicated by decreased solubility in 70 per cent alcohol; furthermore kerosene and mineral oils which can be identified by fractionation and by application of the so-called oleum test as described in the United States Pharmacopoeia under Oil of Turpentine.

It is interesting to note that the native dealers in India evaluate the oil simply by shaking it in a small bottle or by hitting the bottle against the palm of the hand; if the air bubbles rising to the surface disappear quickly, the oil is supposed to be normal. If they stay a few seconds and form a little foam, the oil is suspicious. The exporters in Bombay evaluate palmarosa oil by a simple solubility test, very good solubility proving highest geraniol content and, therefore, best quality.

Use of Palmarosa Oil

In former days, the oil used to serve as an adulterant of Bulgarian or Turkish rose oil. Today palmarosa oil is the source of a very high grade of geraniol. The oil is widely employed in cosmetics and especially in soaps, to which it imparts a pronounced and lasting rose note.

Total Production and Exports

The yearly total production of palmarosa oil in British East India varies from 20,000 to 40,000 pounds. Export figures from Bombay for the past few years are as follows:[16]

1935	32,083 lb.
1936	26,550 lb.
1937	35,361 lb.
1938	27,380 lb.

Of the latter quantity

21,805 lb.	went to Europe
5,200 lb.	went to America
375 lb.	went to Japan
27,380 lb.	

(To Be Concluded)

References

[1]*Bericht von Schimmel & Co.*, April 1907, 50.
[2]"First Notes on *Cymbopogon Martini* Stapf," *Journal of the Asiatic Society of Bengal*, March 1909, Vol. V. No. 3 (N.S.)
[3]*Indian Journ. Agric. Science* 5 (1935), 415. *Bull. Imp. Inst.* 33 (1935), 472.
[4]The indicated yield of 1.39 per cent and the minimum yield of 0.77 per cent seem to the writer to be much too high. They should probably read 0.139 per cent and 0.077 per cent.
[5]*Indian Forest Records* 5, Part 7; *Indische Mercuur* 39 (1916), 787.
[6]*Die Ätherischen Öle*, 3d Ed., II, p. 294.
[7]*Liebigs Annalen* 157 (1871), 232.
[8]*Ber. deutsch. Chem. Ges.* 23 (1890), 1098.
[9]*Arch. der Pharm.* 234 (1896), 328.
[10]*Compt. rend.* 126 (1898), 1725.—*Bull. Soc. Chim.* III. 19 (1898), 633.
[11]*Bericht von Schimmel & Co.*, Oct. 1898, 67.
[12]*Chem. Ztg.* 34 (1910), 857.
[13]*Bericht von Schimmel & Co.*, April 1905, 39.
[14]*Indische Mercuur*, Aug. 24, 1938.
[15]*Chemist and Druggist*, Dec. 31, 1938, 718.
[16]*Bericht von Schimmel & Co.*, 1939, 60.

White hair contains almost entirely, and blond hair preponderantly, leucokeratin. Brown and black hair contain various amounts of melanokeratin, which consists of a protein fraction in combination with a black dye or pigment. Red hair contains rhodokeratin, a protein fraction combined with a red dye, rhodoin. There are thus three kinds of keratin. *Deutsche Parfümerie Ztg.* **27**, 22 (1941).

Twenty Years of Progress in

AT the close of the first World War, nearly all caustic soda was marketed in solid form in non-returnable steel drums. It was of variable quality, difficult for the consumer to handle, and expensive for the manufacturer to produce. Today caustic soda reaches the consumer in liquid form in tailor-made tank cars, of a quality which approaches perfection, and is handled quickly, easily and economically. This development, which has taken place in the alkali industry over the last twenty years, has meant much to the soap manufacturer as well as to other industries, and has been a definite contribution toward the production of higher grade soaps by simpler and more economical methods.

The early 1920's saw the beginning of the development of handling and shipping of caustic soda in liquid form. Since most caustic soda is used ultimately in solution, it was a natural thing to eliminate the pot room, or that phase of caustic production which drove off the last of the water from the caustic, and to stop the manufacture at some point at which a concentrated solution could be economically handled. Since there was a break in the concentrating operation at approximately 50 per cent, at which point some purification frequently took place; and since 50 per cent caustic solutions could be handled easily and shipped in tank cars, a 50 per cent solution (48° to 50° Baume as it was then designated) became the choice of alkali manufacturers. Manufacturers, of course, saved on production costs, which saving was passed on to the consumer. The consumer saved in handling costs and above certain low freight rates was able to obtain a lower laid-down cost for his caustic. Further, the elimination of the pot operation resulted in the shipment of a more uniform quality and, ultimately, a much better quality, since pot operation was never entirely satisfactory.

Consumers were not quick to accept the change from solid caustic soda to 50 per cent liquid caustic soda. It meant installing storage tanks and handling equipment and new procedures for operating personnel, and the possible hazard of handling large volumes of a corrosive solution. At first the handling installations were elaborate and expensive so that only the large users could afford to install equipment and make a satisfactory return on the investment within a reasonable period of time. Ordinary tank cars, usually of 10,000-gallon capacity, were used for shipping, and in the winter, crystallization in tank cars took place and thawing was frequently difficult. There was an appreciable iron pick-up from the tank car and in storage tanks, which had to be cleaned periodically.

The scheme, however, was economically sound, and gradually the use of 50 per cent liquid caustic soda began to displace the use of solid. Handling equipment was simplified and became less expensive. There were freight rate changes, setting up slightly lower rates for the liquid than for the solid, making the use of

...CAUSTIC SODA

By J. C. Leppart

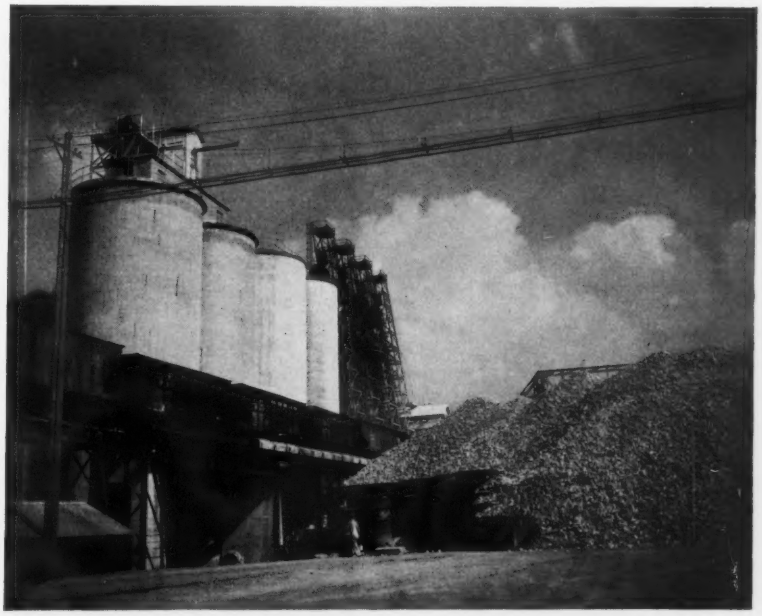
Columbia Chemical Division
Pittsburgh Plate Glass Co.

liquid still more attractive. Tank car equipment was improved and modernized, making handling easier. Advances in the technique of manufacture as the volume grew resulted in improved quality beyond that which could be satisfactorily accomplished by the old pot operations, which meant a better caustic soda for the consumer, particularly the electrolytic grades. As time went on, lined tank cars made their appearance, which solved in a measure the problem of iron pick-up in transit. These linings were usually rubber-base paints requiring a great deal of service by the manufacturers and frequent replacement.

As the use of 50 per cent caustic liquor became more widespread, the possibility of shipping caustic at a still higher concentration was visualized. The nature of the material as indicated from its solubility curve and manufacturing operation was such that the next and last economical concentration possible for shipment was from 70 to 73 per cent. Consequently, this was tried and met with some success. However, caustic at this strength begins to solidify at about 145° F., and when shipped in ordinary tank cars it always presented a difficult thawing problem in both summer and winter. Cars had to be steamed for long periods, and the quality of the liquor was never too good because of the high iron pick-up in the car and during manufacture. Then, too, the handling problem at the customer's plant was not easy since he had to dilute immediately after unloading and was not equipped with modern methods for handling this problem easily. Hence, the consumer requiring high-quality caustic did not go to the use of 70 to 73 per cent; nor did the smaller user, because of the difficulties and high cost of handling.

The biggest recent change in the handling and shipping of caustic soda occurred along about 1938. At this time, the technique of manufacturing and handling 50 per cent liquid caustic soda had reached a high development. The use of solid caustic soda had been practically eliminated, and there were a few users of caustic at 70 to 73 per cent strength. Shipments were being made in lined cars, but consumers still had their thawing problems in the winter time. To ease this thawing problem, insulated cars in limited quantity suddenly appeared The first of these

Stocks of lime-stone,—one of the essential raw materials in the ammonia-soda process for the manufacture of caustic soda.



Brine for electrolytic caustic is pumped from wells like this.

were regular tank cars having two inches of insulation and were only reasonably satisfactory in alleviating the thawing problem. The linings then in use would not stand shipment of caustic at high temperatures so that this was not a too important departure. The big change which was to come was the development of the technique of manufacturing and handling 73 per cent liquid caustic of high quality, which now is rapidly displacing the use of the 50 per cent liquor.

Obviously, there is an economic advantage to the large user of caustic soda taking material at 73 per cent strength as against 50 per cent, provided the freight rate is, say, 14c to 15c a hundred pounds or higher. To make this economic advantage available, the manufacturer faced three problems. The first was to manufacture 73 per cent liquid caustic of a quality satisfactory to all caustic users. The second was to develop a tank car for the shipment of this high-quality caustic without metallic contamination in transit; and the third was to develop a simplified technique of handling at destination which would still protect the quality until the caustic reached the storage tank and which would not create a difficult operating problem for the consumer or involve an expensive handling installation. This was not easy.

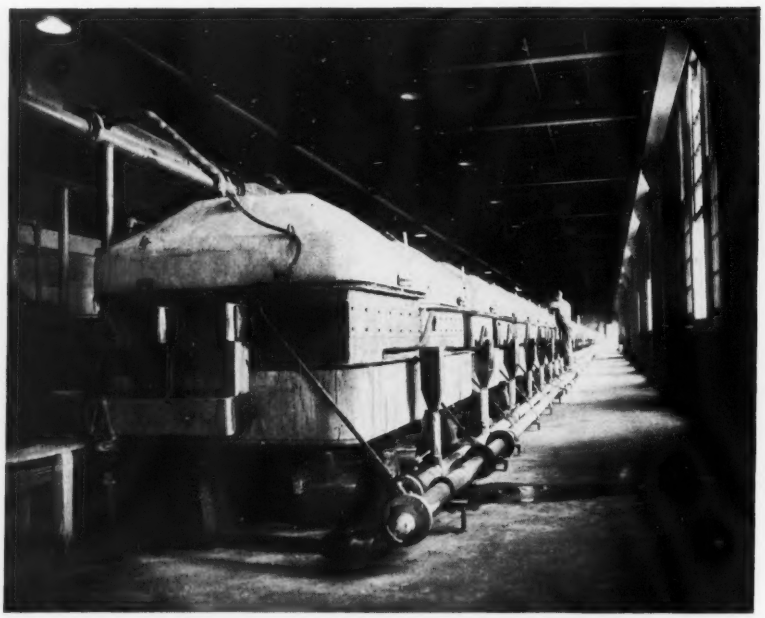
The rayon industry, for example, is the largest consumer of caustic soda and at the same time has the most rigid requirements with respect to quality. Caustic soda for rayon must be as close to pure as possible, and metallic impurities particularly must appear only in the fourth or fifth decimal place. The soap industry in its quality demands is second only to rayon; and the chemical industry, another large consumer, is also very particular. These three outlets alone consume half of all caustic sold. These quality demands were already being met with 50 per cent liquid caustic soda. To meet them with higher test liquor was to require research and operating skill of the highest order. There was no tank car lining which would stand up against 73 per cent caustic and eliminate metallic pick-up during transit. There was no way of unloading easily and diluting at destination without metallic pick-up and operating difficulties.

The American way in industry provides for the keenest competition among manufacturers at all times. In the chemical industry, we seek to lead through scientific progress and depend upon ingenuity, research, and plant development to show the way to new things. When an idea is considered good if certain things work, that is usually the only spark needed to find the answer to the "ifs." The alkali industry has found the answer in the case of 73 per cent liquid caustic soda. Today the soap industry and others are receiving the highest quality caustic at 73 per cent strength and handle it economically at their plants and take full advantage of the savings involved. This is a far cry from the old solid caustic in drums of 1920.

This time the large consumers, accustomed to handling liquid caustic soda for a period of years, were quick to see the advantage of being able to take liquid caustic soda in their plants at 73 per cent strength, and it was not difficult to obtain sponsors to pioneer its use in the quality field. It is significant that three of the largest and most progressive rayon companies, and two of the biggest soap companies moved almost simultaneously to switch from the use of high-quality 50 per cent liquid caustic to equal or better quality 73 per cent liquid caustic. The change was a success from the first shipment and no difficulties have been experienced with the development, now in

(*Turn To Page* 67)

A battery of new-type cells for production of electrolytic caustic.



Essential Oils...

Current Problems in Their Importation

By GEORGE H. MCGLYNN

Magnus, Mabee & Reynard, Inc.

FEW industries are so dependent upon world-wide sources of supply as is the essential oil industry. There is otto of rose, precious as gold, with little means of transit from a war surrounded Bulgaria. There is lavender, once plentifully supplied by France and now as expensive and much harder to obtain than caviar. There's citronella from Java, sky-rocketing in price with every mention of German raiders in the Pacific. Everywhere, in Ceylon and Vladivostok, in San Salvador and Morroco, in Italy and China the essential oils that are needed for perfuming soaps and toilet preparations and for flavoring our favorite foods are piled high on the wharves.

Shipping space has become a precious commodity. As shipping losses continue, as ships are commandeered for troop transport and war cargoes, and as more stringent priorities for the use of shipping space are put into effect, the hardships of the importer are on the increase.

Some of the basis for increased prices on imported oils may be determined by checking what has happened to freight rates. Importation costs are up, way up! To give an example in point, a shipment of three drums of a much desired essential oil has just arrived after months of waiting. The importer had to pay ten times the ordinary freight costs for it. Supply and demand affect freight rates as well as commodity prices. With the demand for ever-decreasing shipping space gaining day by day, with bidding for space becoming a practice, is it any wonder that rates are as volatile as the stock market.

Insurance costs, too, have gained sharply. War risk insurance premiums, even from countries not at war, are terribly high and in the war zone rates as high as 15 to 20 per cent have been paid. Yet with all the insurance and freight extras and what have you, who knows these surprising days, when a shipment will arrive? Today, a shipper putting into play all his ingenuity sometimes succeeds in arranging to load on a freighter. Even so, he is indeed, a brave man, who ventures to predict the arrival. Shipments are loaded and unloaded as boats are shuttled here and there. The docks of the world's great shipping centers are loaded high with goods awaiting transhipment. Yes, it takes a hardy man to stand up under the innumerable delays of shipping today. If you as a buyer of refined oils, have experienced delays in having orders filled, multiply your delivery date headaches ten-fold and you begin to match what the importer is up against.

It must be remembered that with half the world at war, the practice of advising importers by cable when a contractual shipment is loaded on the other side is dangerous business and therefore this practice is practically *verboten*. Warring nations have prohibited such notification and have gone even further by refusing to list ship arrivals. Where the importer is advised of the boat on which shipment is being made he can venture a guess as to arrival, but to play safe add a week or two and you'll be nearer right.

In times of peace, the normal routine is to receive documents and full particulars long before the steamer bearing the merchandise arrives, or at worst, at the same time. When papers will arrive nowadays is as clear as l'affaire Hess. We have experienced cases where boats have been in port for weeks before papers have shown up. In such cases, the picnic has just begun. It is necessary to make arrangements at the Customs House for entry without papers and then to secure either bank guarantees to the steamship company or if the company will accept, provide your own guarantee before merchandise can be released.

Under such trying circumstances and in the rush of handling, loading, storing, lightering and landing of freight, it is small wonder that there has been an increase in the number of occurrences that give rise to claims.

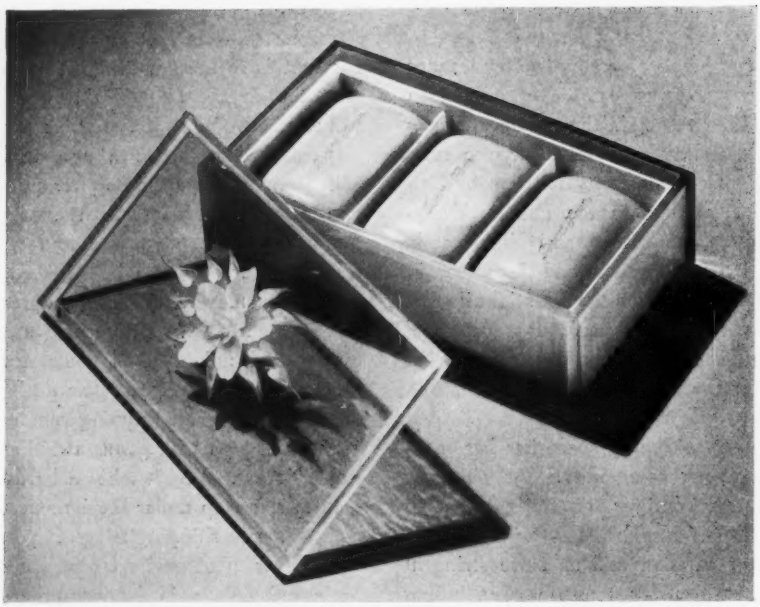
Many countries have placed restrictions on the exportation of metals. The ordinary supply of shipping drums has dwindled as the metal has been converted to more pressing use. Merchandise just isn't being packed as securely as before, time for handling has been reduced and many inexperienced hands are doing the handling. Cases are broken, marks are obliterated, there is much damage and loss! Claim satisfaction has been slowed down to a crawl and there's no use allowing the blood pressure to mount but to make up your mind that in the end your claim will receive its just due.

The British blockade is more than something you read about in

(*Turn To Page* 70)

New Products and

In introducing "Dirt Doom" the Edgar A. Murray Co., Detroit, adopted a duplex box designed by Hinde & Dauch Paper Co., Sandusky, which does double duty as both shipping container and display case. Streamer across bottom of box carries sales copy.



A translucent, pink container is used to package Shulton's new "Desert Flower" toilet soap. A hand carved desert flower is imprisoned in each cover. Refill soap cakes sell at $1.00 for three.

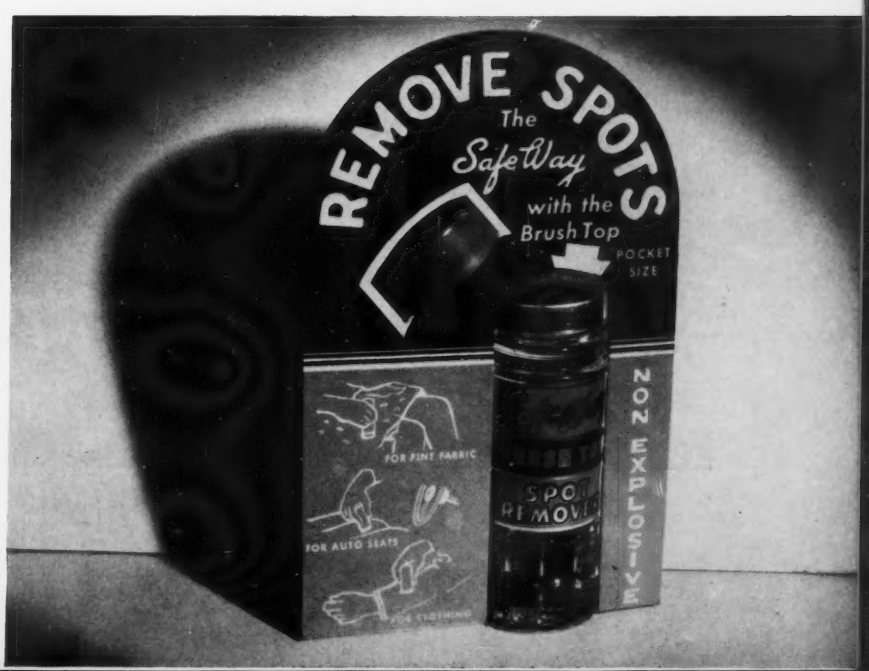
Yardley & Co., New York, have just introduced three new bath soaps, — "Red Roses," "Fern" and "Verbena Leaf." The tablets are square, with the underside of the cake concave, to assist speedy drying after use.

Packages

Opal jars, Phoenix C T caps and an attractive dispensing display lift "Angelus" shoe wax out of the ordinary run-of-the-mine line of shoe polishes. Heetfield photo.

"Sergeant's" flea soap and flea powder are packed together by Polk Miller Products Corp. in a new combination package. A sample of "Sergeant's" pine oil disinfectant accompanies each kit. Display case holds 4 kits.

A prize winner in the recent "5 and 10" packaging contest was the "Safeway" brush top spot remover, marketed by Safeway Laboratories, the award being for greatest merchandising gain from package design.



Raw Materials

for the soap and allied industries

RED OIL

CAUSTIC SODA

STEARIC ACID

CAUSTIC POTASH

TALLOW

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TANK CARS
TANK WAGONS

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GLYCERINE
METASILICATE
OXALIC ACID
POTASSIUM CARBONATE
SAL AMMONIAC
SALT
SAL SODA
SILICATE OF SODA
SODA ASH
TRISODIUM PHOSPHATE

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COCOANUT OIL
CORN OIL
COTTONSEED OIL
LARD OIL
NEATSFOOT OIL
OLEIC ACID - RED OIL
OLIVE OIL
OLIVE OIL FOOTS
PALM OIL
PALM KERNEL OIL
PEANUT OIL
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NEWS....

Eavenson Wins Strike Decision

Refusal of Wilson & Co., parent company of J. Eavenson & Sons, Camden, N. J., to rehire strikers guilty of violence during a strike at the Camden soap plant, March 31-July 21, 1939, was upheld by the United States Circuit Court of Appeals in Chicago in a decision handed down June 24. The case was taken to the appeals court on a petition by Wilson & Co. after a preliminary decision by the National Labor Relations Board which found the company guilty of unfair labor practices.

The appeals court based its reversal of the NLRB decision on the fact that the strikers had resorted to "unprovoked violence" and had thus forfeited their rights. "We concede without reservation the right of employees to strike," said the court. "Such right is theirs either for good cause or no cause.

"The strike, however, must be conducted in a lawful manner. When so conducted the striker retains his status as an employee and is protected by the act. When unprovoked violence is resorted to . . . (the striker) is no longer protected, and what he thereafter obtains from the employer must be at the latter's discretion.

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Adams Takes Deupree OPM Post

Appointment of James S. Adams, executive vice-president and director of Colgate-Palmolive-Peet Co., as chief of Materials from Agriculture and Forest Products Section of the Materials Branch, Production Division, of the Office of Production Management was announced in Washington May 30. He succeeds Richard R. Deupree, who is returning to the presidency of Procter and Gamble Co., but who will continue to advise the section. A native of Brazil, Indiana, Mr. Adams attended Indiana

JAMES S. ADAMS

University and for six years was vice president and an assistant to the president of Johns-Manville Corp. Also for six years he was vice president and general manager of Benton and Bowles advertising agency, New York. Since January, 1940, he has been executive vice president and a director of Colgate-Palmolive-Peet Co. His residence is in Fairfield, Conn.

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Boston BIMS Golf at Newton

The BIMS of Boston held their first golf tournament and dinner party of the year at the Commonwealth Country Club, Newton, Mass., on June 26, thus beginning the third year of the club's activities.

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Half Price Sale for "Super Suds"

Colgate - Palmolive - Peet Co., offered Chicago housewives a half price sale on "Super Suds" in May. Purchasers of one carton at regular price could buy a second box for one-half the regular charge.

J. H. Black Joins Gillam

J. H. Black has joined the staff of Gillam Soap Works, Fort Worth, Texas as soap maker. Mr. Black was previously with Miller Soap Co. in Los Angeles and prior to that with Armour and Co. and Swift and Co. E. O. Gillam, operator of Gillam Soap Works advises that the addition of newly completed warehouses, storage tanks, conveyors and soap frames is expected to increase the capacity of the plant almost a hundred per cent.

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C-P-P Appoints Adv. Agency

Hugh McKay director of advertising of Colgate-Palmolive-Peet Co., has announced the appointment of Joseph Jacobs Jewish Market Organization of New York as merchandising and advertising counsel in the Jewish field. Plans for Fall advertising featuring radio and newspaper campaigns are now being formulated.

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"Nu-Spray" Mfr. Moves

C. G. C. Laboratories, Chicago, manufacturers of "Nu-Spray" window wash and detergents, formerly at 435 E. 88th Pl., have just moved to 8626 S. Elizabeth St.

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British Soap Materials

In 1927, tallow was the leading fat used by the British soap industry, but by 1937 palm oil had taken first place, the one declining by 23,000 tons and the other showing an increase of 22,000 tons. In 1938, the British Empire produced 37 per cent of the world supply of palm oil. In 1937-8 production of whale oil by the British Empire was 40 per cent of world production. Viscount Leverhulme. *Chemistry and Industry* 60, 313-15 (1941).

Lever Denies P & G Charges

Answering a Procter & Gamble Co. petition charging unfair competition, attorneys for Lever Bros., New York and Cambridge, Mass., denied in United States District Court in Cincinnati on June 21 that their client competed unfairly with P. & G. They contended that Lever Bros. floating soaps were made and sold under their own patents.

Dismissal of the P. & G. petition is asked. It was replied that the "exclusive characteristics of 'Ivory Soap' are not distinctive or generally recognized as an indication that such qualities are exclusive in the products of Procter & Gamble Co." It was also stated that "the quality of floating is and has for many years been the common and general popular character of soap manufactured by others than Procter & Gamble."

Discussing P. & G. allegations that size, shape and other characteristics of Ivory were simulated in Lever Bros. floating products, the Lever answer said that these were "functional and essential to convenient manufacture, storage, distribution and sale" of its products and that they were "not unique," as P. & G. alleged. The answer admits that P. & G. has been advertising a new "Ivory Soap" extensively, but denies that in marketing its product under the trade name "Fairy Soap," that Lever Bros. infringed on P. & G. rights.

The chief Lever Bros. floating soap, Swan, is wrapped in blue paper and bears the name, Lever Bros. Co., and therefore does not simulate "Ivory Soap," the answer continues. It says that Lever Bros. advertisements since January, 1941, have referred to the "odor, shape and severability" of "Swan Soap" and that its qualities as a soap for babies have been advertised, but denies that these references are in simulation of P. & G. advertising. The case is not expected to be heard before September.

Huisking Adds New Quarters

Charles L. Huisking & Co., with which Conti Products Corp. is associated, has just completed construction of three new buildings to expand its facilities at 143 Varick St., New York. The new quarters provide space for an enlarged receiving and shipping department, as well as additional storage and processing facilities.

Hewitt Expands in N. Y.

Hewitt Soap Co. has increased the space occupied by its New York office and sample rooms by some two hundred per cent, according to an announcement by Martin S. Schultes, vice-president of the company, who makes his headquarters in New York. The offices have been newly equipped and refurnished and an additional pent-house in the Marbridge Building, 47 West 34th St., taken over. The company has had its New York office in this building for the past 20 years, starting originally with desk space. In the new toilet soap sample rooms there is a reference file of soap samples from all parts of the world, including all American manufacturers, comprising between four and five thousand brands. The main office and factory of the company is in Dayton, Ohio.

P & G Declare Extra Dividend

Procter & Gamble Co. has declared an extra dividend of 50 cents a share on common stock, payable June 30 to stockholders of record June 20. A similar extra was paid in May on the outstanding 6,409,408 shares. The regular quarterly dividend of $2 a share on 8 per cent preferred also was declared, payable July 15 to shareholders of record June 25.

Canadian Coconut Oil Plant

Operations have just started at the Vancouver, B. C., plant of W. R. Carpenter, Ltd., with shipment of the first car of crude coconut oil to eastern Canada. When additional plant capacity is installed by the end of the summer, it is expected that the annual output will reach 35,000 tons. The new plant is at present producing at the rate of 30 tons of crude coconut oil daily. The copra supply comes from New Guinea.

Offer New Synthetic Detergent

Protinol Products, Inc., 122 East 42nd St., New York, has just introduced a new synthetic detergent under the name "Protinol." It is described as a surface active agent of protein structure, containing no sulfonated bodies or free fatty acids. It is said to find application in the textile field.

Larkin Co. Liquidating

All manufacturing operations at the plant of Larkin Co., Buffalo, are to cease in the near future as the creditors' committee completes liquidation of the business. The Larkin Co. at one time did an extensive business in household products, including soaps and toilet preparations.

Iowa Soap Co. Income Drops

Net income of Iowa Soap Co., Burlington, Iowa, for 1940 was recently reported as $90,131, as compared with $141,865 in 1939.

Strobl Heads Verley N. Y. Office

Ed Strobl, executive vice-president of Albert Verley, Inc., Chicago, manufacturers of perfuming materials, is now in the New York office in charge of Eastern operations. David A. Bennett, president of the company, will continue to make his headquarters in Chicago but will visit New York occasionally as in the past.

B-M Executives Join OPM

Edward W. Love, production manager at the Hillside, N. J., plant of Bristol-Myers Co., and P. J. Lathrop, manager of the Newark, N. J., plant of Rubberset Co., a Bristol-Myers subsidiary, have just been released for service with the Office of Production Management.

Credit Men Name R. Deupree

Russell Deupree, credit manager, Procter & Gamble Co., has been elected a director of the National Association of Credit Men. Mr. Deupree, who is a brother of Richard R. Deupree, president of P & G, is an ex-president of the Cincinnati credit group.

Caught on the links by **Soap's** Camera Man at the T. G. A. Golf Tournament at Ridgewood Country Club.

TGA Studies Supply Problem

Formation of an exchange bureau through which toilet goods manufacturers may aid each other with raw material supplies was decided upon at the sixth annual meeting of the Toilet Goods Association held June 9-10-11 at the Waldorf-Astoria, New York. The proposal for the setting up of such a bureau was made by Herman L. Brooks, Coty, Inc., in his address as president of the association. Other speakers of the opening day were S. L. Mayham, who spoke on the need for definitions of products in his annual report as director for the board of standards of the association, and Hugo Mock, general counsel, who spoke on "Legal Trends in the Toilet Goods Industry."

In a symposium on the defense emergency and its effect on raw materials and suppliers, representatives of supply industries addressed association members. A. L. van Ameringen, of van Ameringen-Haebler, Inc., New York, spoke on "The Jig Saw Puzzle of Perfume Materials," reviewing the outlook for numerous materials and discussed the possibilities of synthetic products. John B. Tuttle, of Standard Oil Co. of New Jersey, reported on the outlook for the three petroleum products most generally used by the cosmetic manufacturers, crystalline wax, white mineral oil and refined petrolatum. S. H. Clark, of Whittaker, Clark & Daniels, Inc., New York, discussed the current situation in talc, precipitated chalk and related products. A. P. Hickcox, Scovill Manufacturing Co., New York, reviewed the statistical position of stocks of metals, while J. R. Turnbull, Monsanto Chemical Co., reported on plastic supplies, and Eugene F. Bertrand, Owens-Illinois Glass Co., discussed closures.

All officers of the association were re-elected for the coming year: President, Herman L. Brooks, president and general manager of Coty, Inc.; first vice-president, Cecil Smith, of Yardley & Co.; second vice-president, P. E. Hulburt, of the J. B. Williams Company; third vice-president, H. P. Willats, of Colonial Dames, Inc.; treasurer, Paul F. Vallee, of Roger & Gallet; secretary, J. I. Poses, of the A. A. Van Tine Products Corporation; and executive secretary, Charles S. Welch.

TGA Golf Winners

Winners in the Toilet Goods Association golf tournament which was held June 10 at the Ridgewood (N. J.) Country Club during the annual convention of the association were as follows: M. F. Martin, P. L. Forsman, A. J. Robertson, R. L. Hutchins, F. L. Kiernan, S. H. Corkran, Dudley Lum, S. M. Murphy, W. H. Adkins, E. B. Millar, F. M. Moss, C. C. Bryan, A. C. Burgund, W. P. Murray, Lee Mason, H. Anderson, A. B. Sauvogeot, T. MacInnis, F. J. Lueders, W. T. Haebler, Walter E. Klass, J. B. Walker, R. B. Rhinehart, C. Fischbeck, Ed. Thorgeson, N. A. Chase, W. H. Hiester, Roger Kenna, L. Furlager, J. Frankel, N. R. S. Fretz, G. O. Branigan, L. B. Whitehouse, W. F. Zimmerman, and S. F. Urban.

SEND FOR THIS FREE BULLETIN. Are you familiar with the powdered silicates of soda? Fabricators of industrial cleaners find the PQ Silicates suitable both in the dry state and in solution for admixtures with other detergent materials. PQ Silicates have a high saponifying and emulsifying rating; they quickly disperse soil, and effectively suspend it. The latter property is a unique advantage of the soluble silica content. Use PQ Soluble Silicates profitably in your detergents. Investigate now how to revitalize your old brands, or add distinction to your new ones.

PHILADELPHIA QUARTZ COMPANY, *Philadelphia*

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P. Q. SILICATES of SODA
IN LUMP AND POWDER FORMS
BULLETIN NO. 172
PHILADELPHIA QUARTZ COMPANY, Established 1831, 121 S. THIRD STREET, PHILADELPHIA

Propose P-S-626 Revisions

Revisions proposed for the Federal specification for powdered toilet soap (for dispensers), Specification P-S-626, make provisions for borax soap (type II) in addition to straight soap, now known as Type I. A tentative draft of the proposed revisions, dated May 23, gives the following general requirements for Type II powdered toilet soap: "*Borax soap.* Powdered toilet soap for use in dispensers (Type II) shall be a uniform mixture of a thoroughly saponified soap and borax ($Na_2B_4O_7$:10 H_2O); shall be uncolored and mildly perfumed unless otherwise specified; shall be a uniform, free-flowing, non-caking powder; and shall lather freely when used with cold soft water." Detailed requirements add that the material shall be free-flowing and non-caking when used in a dispenser conforming to Type III or IV of Federal specification FF-D-396; that it shall contain not less than 23 per cent and not more than 27 per cent of anhydrous soap, and not less than 72 per cent and not more than 77 per cent of borax; that free alkali shall not exceed 0.1 per cent; that matter insoluble in water shall not exceed 0.2 per cent; that rosin, sugar, and foreign matter shall not be present; and that the material shall meet the following fineness requirements:

Retained on	*Min. Per Cent*	*Max. Per Cent*
No. 12 seive.....	—	0
No. 45 seive.....	5	—
No. 100 seive.....	45	—

Another requirement not included in the old specification is that the anhydrous soda soap content of the straight soap (Type I) shall be not less than 91 per cent.

Katz Lectures at Arizona S.T.C.

Dr. Alexander Katz, a director of Florasynth Laboratories, Inc., New York, was guest lecturer at the recent sessions of the Pasteur Scientific Society of Arizona State Teachers College, Tempe, Ariz. His lectures which were given at a series of sessions during the two-day meeting covered such subjects as "The Art of Compounding Essential Oils and Aromatic Chemicals," "Production and Purification of Synthetic Materials and Natural Isolates Derived from Natural Sources" and "Cultivation of Materials and Production of Essential Oils in the United States."

Reduce Tin Content of Tubes

John D. Biggers, director of production, OPM, recently called upon manufacturers of collapsible tubes to effect a saving of approximately 70 per cent of the tin now used in the manufacture of tubes for shaving preparations, paints and adhesives. Such a saving would amount to 1,000 tons annually, it is said. In letters to members of the industry, Mr. Biggers asked that tin-coated tubes known to the trade as "10 per cent tin-coated," or tin alloys in which the total over-all usage of tin would not exceed 15 per cent, be substituted for 100 per cent tin tubes. This substitution will also apply to tubes for the same purposes formerly fabricated of aluminum. It was requested that the change be completely effected by September 1.

R. B. Foster Visits U.S.A.

Robert B. Foster, director of Colgate-Palmolive-Peet, Ltd., London, recently arrived from England aboard the "Dixie Clipper" for conferences with officials of the parent company. According to Mr. Foster, the firm's London offices have been completely wrecked, while the C-P-P factory in Manchester has suffered but slight damage to date. Mr. Foster, an American citizen, has been associated with the English company for the past 27 years.

Gulick on Draft Board

Charles P. Gulick, president and chairman of the board of National Oil Products Co., Harrison, N. J., has just been appointed assistant to the State Advisor on occupational deferments under the Selective Service Act by Governor Edison of New Jersey. Mr. Gulick will represent all of Hudson County with the exception of Jersey City.

Unilever Reports 1940 Income

A net profit of £6,600,000 for 1940 was recently reported in a preliminary statement of Lever Brothers & Unilever, Ltd., London. This compares with a net profit of £6,742,053 for 1939. After payment of all preferred dividends, there remains a surplus of about £2,250,000, it is reported. These results, it is pointed out, would justify the payment of at least the same dividend on the ordinary stock for 1940 as was paid in 1939, 10 per cent. Due to the close relationship between the English company and Lever Brothers & Unilever, N. V., Holland, consideration has always been given in past dividend announcements to the results of both companies. The board of the British concern has no knowledge of the results of the Dutch company for 1940 and for this reason it is not at present recommending any dividend on the common stock.

Soap Use of Rosin Decreases

The soap industry, second largest user of rosin in the United States, consumed 191,266 barrels of 500 pounds gross in the 1941-40 season, according to a recent report from the Department of Agriculture. This compares with the 1940-39 consumption of 235,014 barrels of rosin. The only other industry using more rosin than the soap industry was the paper and paper size industry which took 327,938 barrels in the 1941-40 season and slightly more in the previous season. Some 3,678 barrels were used in the manufacture of insecticides and disinfectants in 1941-40 compared with 5,125 barrels in 1940-39. Insecticides and disinfectants also consumed 24,300 gallons of turpentine in 1941-40 as against 17,700 gallons in 1940-39.

Continental Sales Mgr. Dies

William F. Bredemeyer, local sales manager for the New York district of Continental Can Co., New York, died last month at his home in West Englewood, N. J., following a heart attack. He was fifty-nine years old.

ANTOINE CHIRIS

Antoine Chiris was established in France in 1768 and all through these years pioneered in the development of its long-known worldwide organizations. The American branch was established in New York in 1899.

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Florasynth Ends 25th Year

Florasynth Laboratories, Inc., Bronx, N. Y., perfuming materials, is celebrating the twenty-fifth anniversary of the formation of the company. At a recent annual meeting, it was announced that all employees would be presented with life insurance policies under the group plan.

L. A. Rosett

C. L. Senior

Dr. A. Katz

W. LaKritz

The company has branches in Chicago, Dallas, Los Angeles, Seattle, and New Orleans, and is affiliated with Florasynth Laboratories (Canada) Ltd., with headquarters in Montreal and branches in Toronto, Vancouver and Winnipeg, and Florasynth Laboratories de Mexico.

Canada Soap Production Rises

A gain of 2.1 per cent in the production of soaps and a gain of 16.2 per cent in the production of toilet preparations was recently announced by the Canadian Bureau of Statistics in its 1940 report on the value of chemicals and allied products produced in Canada.

Lysanda Line Goes National

Line of toiletries of Lysanda, Inc., recently-formed New York firm, has just gone into national distribution, it has been announced by David and Seymour Fischman, officers of the company. The Lysanda line, attractively packaged in opaque white glass bottles, includes a "Body Shampoo," a soapless liquid detergent for the bath, and a foam bath, as well as bath oil, an after-bath massage lotion, a body balm and several perfumes. At present distribution is being confined to department stores in large cities for the most part.

Lever Buys Canadian Bonds

Lever Brothers, Ltd., Toronto, recently subscribed for one million dollars of Canada's Victory Loan, for which a campaign is being conducted throughout the Dominion.

Form Pumice Corp. of America

Barnsdall Oil Co., through its subsidiary Barnsdall Tripoli Co., recently sold its pumice mill at Grants, New Mexico, to McAleer Manufacturing Co., Detroit, and Whittaker, Clark & Daniels, Inc., New York, and has leased them a large pumice deposit eight miles from Grants which will supply the mill with raw material. The new company is known as Pumice Corp. of America, a Delaware corporation. Although ownership has been transferred to the McAleer company and Whittaker, Clark & Daniels, the entire operating staff and policies of the company will be unchanged. Previous to the discovery and development of this particular deposit in New Mexico by the Barnsdall company, the bulk of fine pumice had always been imported from the Italian island of Lipari. Officers of the new company are: Clarence E. Clark, New York, president; N. Bradley Higbie, Jr., Detroit, vice-president; John N. Ebert, Grants, vice-president and general manager; Carlton M. Higbie, Detroit, treasurer; and Harold G. Robinson, New York, secretary.

Monsanto Bubble Bath Story

"Bubbles for Beauty," an article in the June issue of *Monsanto*, house publication of Monsanto Chemical Co., St. Louis, describes the action of "Santomerse," wetting agent used in the "Million Bubble Bath," product of B. & L. Laboratories.

Shaving Comments From P. I.

Many men have complained about the messiness of using the fingers to spread "brushless" shaving cream on the face prior to shaving but few do anything about it. One who *did* do something to improve on cream daubing with the fingers is P. L. Sherman, of the Manila branch of El Dorado Oil Works, San Francisco, who writes us to comment on "The Trend in Shave Products," (January *Soap*). Mr. Sherman solved the problem by using a brush to spread on his "brushless" shaving cream—not an ordinary shaving brush, but a brush cut from the common office circular ink eraser, which, he indicates, works like a charm. "I don't say it's perfect," Mr. Sherman writes, "perhaps it might work better if it were a mite wider or thicker —but the point is that it brushes on the brushless cream with no loss of time, temper or material." Suggestion is that such a brush be affixed to the discharge end of the cream tube in such a way that it will function almost automatically.

Elenite Co. Moves Offices

Elenite Co., cleaning compounds, New York, with offices formerly at 122 East 42nd St., has just moved to considerably larger quarters at 401 Lafayette St. The plant and offices of the company have been combined at the same address and the firm's line has been extended. Elenite is also distributor of the "Sterilamp," Westinghouse ultraviolet ray device for sterilizing in food-packing plants and the like.

Offers Bolivian Representation

"Horizontes" Organizacion Comercial, of La Paz, Bolivia, S. A., is interested in forming connections with American manufacturers of chemicals and pharmaceuticals as Bolivian representative for these products. References are: Royal Industrial Bank, New York; Exportador Americano, New York; Foreign Credit Interchange Bureau National Association of Credit Men, New York.

Appealing SOAP ODORS ECONOMICALLY PRICED

OUR Soap Laboratories offer these long lasting, moderately priced compounds as perfumes of conspicuous value and compelling appeal. Their use will give you a wider profit margin on your milled toilet soaps.

FOUGERE #18	$1.50 per lb.
BOUQUET #311 (Eastern Type)	2.50 per lb.
GERANIUM #14	.75 per lb.
LILAC #59	3.00 per lb.
ROSE #71	1.75 per lb.
ORCHID #9	.75 per lb.
PINE #31	1.50 per lb.

When requesting samples, specify odors desired.

FRITZSCHE BROTHERS, Inc.

PORT AUTHORITY COMMERCE BLDG., 76 NINTH AVENUE, NEW YORK, N. Y.

BRANCH STOCKS

BOSTON CHICAGO LOS ANGELES ST. LOUIS TORONTO, CANADA MEXICO, D. F.

FACTORIES AT CLIFTON, N. J AND SEILLANS (VAR) FRANCE

Phila. Quartz 110th Anniversary

Philadelphia Quartz Co., Philadelphia, celebrates its 110th anniversary this month, the company history dating back to July 20, 1831, when Joseph Elkinton started the manufacture of soaps and candles. "Family Soap" was one of the early brands which enjoyed a wide sale during the pre-Civil War period. When the war cut off supplies of rosin from the south, Thomas Elkinton, one of the sons of the founder, found a ready made market for silicate of soda with which he had been experimenting for several years. The present name, Philadelphia Quartz Co., was adopted in 1864. Soap manufacture was finally discontinued in 1904 when the company was incorporated. Thomas W. Elkinton, the fourth generation of the family of the founder, is the present head of the company.

Hairdressers Meet Oct. 13

The 21st annual convention of the National Hairdressers' & Cosmetologists' Association will be held at the Pennsylvania Hotel, New York, Oct. 13 through 16.

Guenther Returns From Tour

Dr. E. S. Guenther, chief research chemist of Fritzsche Brothers, Inc., New York, recently returned after a five weeks' trip through Mexico and Guatemala where he investigated the possibilities for further development of essential oil sources on the American continent. In the regions visited, he reported, conditions are favorable and essential oil bearing plants grow in profusion. Education of native producers, however, would require much time and patient cooperation before such work could bear fruit, he indicated.

P & G Build in Baltimore

Procter & Gamble Co. is adding three new buildings to its Baltimore plant on Marriott St. They will provide 20,000 square feet of additional floor space which will be used for copra storage and processing.

Gus Bayer Leaves Merck

Gustave Bayer, office manager for Merck and Co., Rahway, N. J., retired early this month after forty-six years with the company. He was honored with a dinner at the Hotel Biltmore the evening of June 26.

New Book on Clothes Washing

"The Way We Wash Our Clothes" is the title of a new popular text by Eleanor Ahern dealing with laundering problems. It gives attention to water, soaps, fabrics, laundry equipment, etc. The publisher is Barrows & Co. Miss Ahern is director of Home Economics for P & G.

Set 40c Wage for Drug Mfrs.

A minimum wage scale of 40c an hour, to go into effect July 7, 1941, has been established for the drug, medicine and toilet preparations industry in an order issued by the wage and hour division of the U. S. Dept. of Labor. Dentifrices, cosmetics, perfumes, drugs and medicinal preparations are among the products of the firms affected. The order specifically exempts "the manufacture or packaging of shaving cream, shampoo, essential (volatile) oils, glycerine, and soap, or the milling or packaging without further processing of crude botanical drugs."

F.W.D.A. Meets Sept. 14-17

The Federal Wholesale Druggists Association will hold its 26th annual convention, September 14-17, at the Greenbrier, White Sulphur Springs, W. Va. Paige D. L'Hommedieu of Johnson & Johnson, New Brunswick, N. J., will serve as chairman of the program and entertainment committee. John G. Bill of Sharpe & Dohme, Inc., Philadelphia, will act as vice-chairman.

Make Nylon Washing Product

Nylon Cold Suds Co., Los Angeles, recently announced completion of plans for the manufacture of a product prepared for the specific purpose of washing Nylon hose.

NEW BOBRICK SOAP DISPENSER PLANT

Bobrick Manufacturing Corp., Los Angeles, has recently put into production a new plant designed exclusively for the manufacture of soap dispensers. Exterior view is shown below. To the right is shown one section of the assembling line. Traveling belts take dispensers from one operation to another.

U.S.I. ALCOHOL NEWS

July ★ A Monthly Review of Technical Developments for Chemists and Executives ★ 1941

MEN'S MARKET SEEN ON UP TREND

Shaving cream and after-shave lotions, established favorites among men's toiletries, form the backbone of assembled sets which are being used to boost sales in an expanding market.

Sales Show Substantial Increase As New Products Enter the Field

Boom in masculine toiletries, indicated by recent surveys, is opening up new markets for the cosmetic industry. Manufacturers of special men's lines are studying the possibilities of new products with masculine appeal, and are placing increased emphasis on the sales potentialities of assembled sets suitable for use as gift items.

Definitely masculine note in packaging appears to be essential to success in merchandising the gift sets, which are bought largely by women, who carefully avoid any hint of femininity in buying for men. Another essential seems to be the inclusion in the assembled sets of the popular stand-by items, for shaving cream or soap and after-shave lotions still rate one-two in the field, and can be used to stimulate interest in the newer products. (U.S.I. supplies S.D. Alcohol of high quality in the formulas authorized for use in shaving creams and face lotions.)

BUTYL PHTHALATE IDEAL AS NAIL LACQUER PLASTICIZER

High purity and exceptional freedom from odor and color are among the factors contributing to the popularity of U.S.I. Butyl Phthalate (dibutyl phthalate) as a plasticizing agent for imparting the necessary film flexibility to nail lacquers. Additional advantages of butyl phthalate are its resistance to effects of light, non-toxic qualities, and high solvency for the nitrocellulose commonly employed as the film-forming agent in nail lacquers.

TECHNICAL DEVELOPMENTS

For further information write U.S.I.

A new fixative is described as a pure synthetic chemical, absolutely stable in the presence of acids and alkalis, and a good solvent for artificial musks. Maker says it is suitable for use in cold stirred soaps, colognes, and other products. **(No. 470a)**

Two new antioxidants for soap are said to meet exacting tests. One is described as having a rather sharp odor and as being suitable for use in soaps with a spicy scent; the other as odorless and useful in delicately scented soaps. **(No. 471a)**

A change-can mixer is reported to be suitable for manufacturing a large number of relatively small batches of drugs, emulsions, pastes, lotions, and other products. It is said to combine grinding, dispersing, and thinning operations. **(No. 472a)**

A spray-coating machine is designed to lacquer the internal surfaces of collapsible tubes, cans, or other metal containers, it is reported. Machine is expected to be useful in packaging foods, cosmetics, shaving cream, and other products. **(No. 473a)**

A handy weighing spoon for the laboratory is said to be suspended from a chain, with a balance weight provided in the handle end of the spoon, adjustable for weights from ½ gram to 10 grams. **(No. 474a)**

Genuine flower oils are fortified with constituents that occur naturally in the pure absolutes, to form a new group of substitutes that are said to approach closely the fragrance of the living flowers. They are now available in rose and jasmine types. **(No. 475a)**

DEVELOPS NOVEL CARD FILE TO CATALOG PERFUME ODORS

Dr. Ralph Bienfang, whose novel technique allows odors to be recorded on cards.

Novel technique for recording the odors of essential oils has been developed by Dr. Ralph Bienfang, who catalogs the odors on cards, and thus eliminates the need for numerous small containers.

In Dr. Bienfang's method, cellophane and cellulose acetate are dissolved in sufficient acetone to form a solution thin enough to drop from a glass rod and thick enough to prevent bleeding of the essential oil. Four or five drops of this solution, with the oil added, are placed on a card and allowed to dry. When filed, the cards are said to retain the odor for as long as two years.

U.S.I. INDUSTRIAL CHEMICALS, INC.
60 EAST 42ND ST., NEW YORK (USI) BRANCHES IN ALL PRINCIPAL CITIES
INDUSTRIAL ALCOHOL IN ALL GRADES AND ALL FORMULAS

CONTRACTS AWARDED

Scouring Compound Bids

In a recent opening by the Navy Dept., Washington, D. C., Stevens Soap Corp., Bklyn., submitted the low bid on 45,700 lbs. scouring compound at $1,229.20. In the same opening, Turco Products Co., Los Angeles, was low on 5,000 lbs. at 5.15c per lb.

Cresol Bid

James Good, Phila., was low bidder on 2,000 gals. cresol solution at 62c per gal. in a recent opening by the Navy Dept., Washington, D. C.

Polishing Compound Bids

In a recent opening by the Navy Dept., Washington, D. C., MacAleer Mfg. Co., Detroit, submitted the low bid on 8,100 lbs. of polishing compound at $456.10 and 3,300 lbs. at 9.4c per lb.

Cleaning Compound Bids

Claire Mfg. Co., Chicago, submitted the low bid on 50,000 lbs. cleaning compound at 5.2c per lb. and also 4.2c per lb. on a similar quantity in a recent opening by the Navy Dept., Washington, D. C.

Glycerine Bid

Armour & Co. of Delaware, Chicago, was low bidder on a quantity of glycerine at $27,003.50 in a recent opening by the Navy Dept., Washington, D. C.

Soap Award

Crystal Soap & Chemical Co., Phila., was recently awarded a contract by the Medical Department of the Army Quartermaster Corps for soap at $39,322.33.

Metal Polish Bid

In a recent opening by the Army Quartermaster Corps, Rock Island Arsenal, Ill., R. M. Hollingshead Corp., Camden, N. J., submitted the low bid on 1,000 lbs. metal polish paste in 1-lb. tins at 12c per lb. and 2,000 qts. liquid automobile body polish at 22.5c a qt.

Metal Cleaner Award

The Ordnance Department of the Army Quartermaster Corps recently awarded Pennsylvania Salt Mfg. Co., Wyandotte, Mich., a contract for 100,000 lb. metal cleaner at 5.4c per lb.

Navy Soap Bids

The following companies were low bidders in a recent opening by the Navy Dept., Washington, D. C.: Colgate-Palmolive-Peet Co., Berkley, Calif., 4,000 lbs. olive oil-soda soap, 16.1c per lb., 31,200 lbs. chip soap, $2,786.52, 31,200 lbs. chip soap, $2,730, 9,000 lbs. laundry soap, $459; Iowa Soap Co., Burlington, Iowa, 81,700 lbs. chip soap, $3,880; Newell Gutradt Co., San Francisco, 14,400 lbs. grit soap, 6c per lb.; Crystal Soap & Chemical Co., Phila., 5,000 gals. liquid soap, 30.72c per gal.

Saddle Soap Bid

R. M. Hollingshead Corp., Camden, N. J., bid low on 10,000 lbs. saddle soap at 8.12c per lb. in a recent opening by the Army Ordnance Department, Rock Island Arsenal, Ill.

Insecticide Award

Boyer Chemical Co., Chicago, was awarded a contract for 400 gal. liquid insecticide at 66.4c per gal. in a recent opening by the Army Quartermaster Corps, Chicago.

Army Soap Awards

Colgate - Palmolive - Peet Co., Jersey City, was awarded a contract for 160,000 lbs. ordinary laundry soap at 3.85c per lb., in a recent opening by the Army Quartermaster Corps, Jeffersonville, Ind. In the same opening, Day & Frick, Phila., were awarded a contract for 25,000 cakes grit soap at 3.15c per lb.

Army Medical Awards

The following companies were recently awarded contracts by the Medical Department of the Army Quartermaster Corps: Harley Soap Co., Phila., saponated cresol solution, $39,400; Armour & Co. of Del., Chicago, scouring compound, $32,592.92 and R. M. Hollingshead Corp., Camden, N. J., floor polish, $36,016.60.

TSP Bid

In a recent opening by the Navy Dept., Washington, D. C., Kelite Prod. Co., Los Angeles, bid low on a quantity of trisodium phosphate at $4,551.85.

Fabric Cleaner Award

The Ordnance Department of the Army Quartermaster Corps recently awarded Pennsylvania Salt Mfg. Co., Wyandotte, Mich., a contract for fabric cleaner at $3,900.

Metal Cleaner Bid

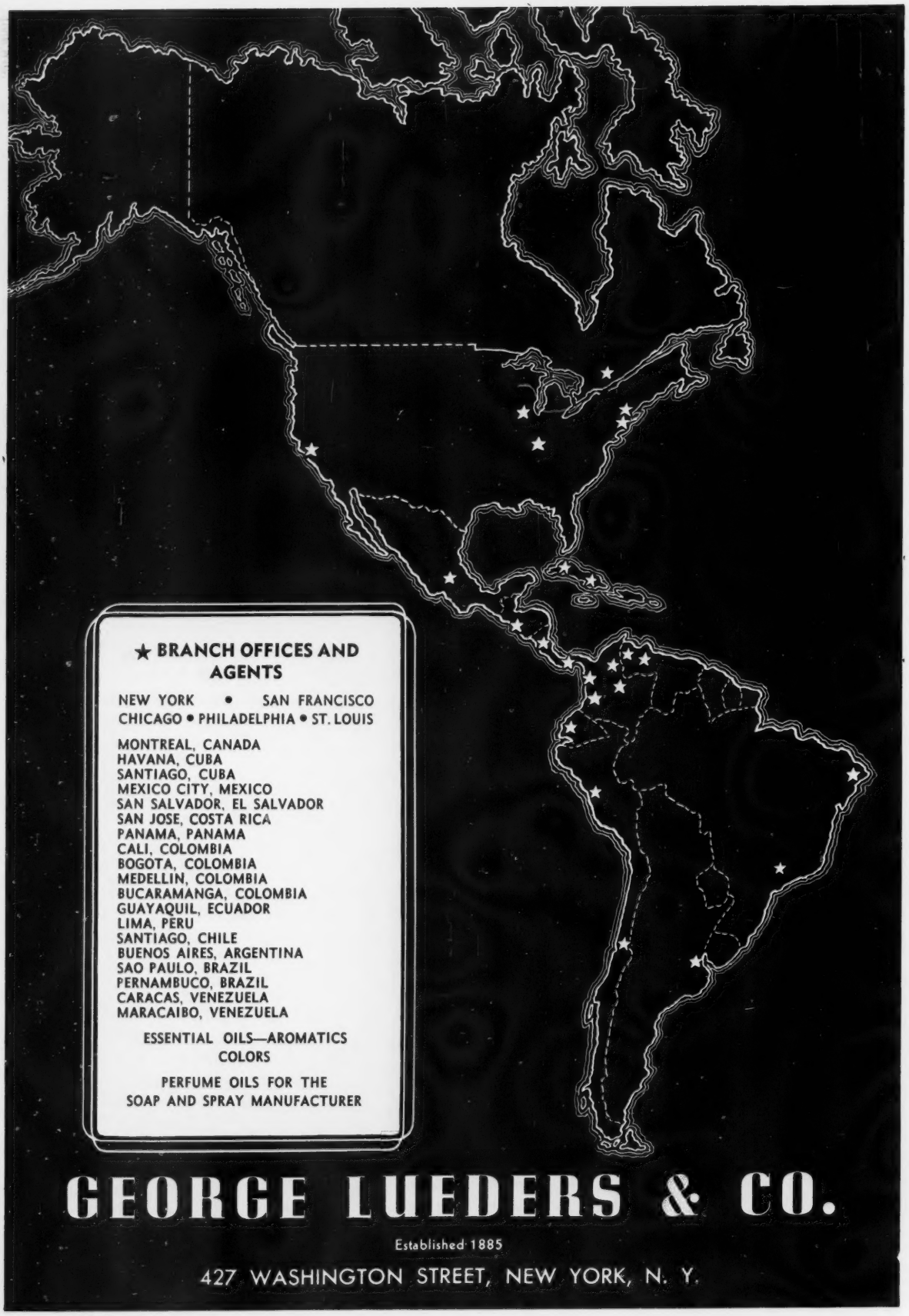
In a recent opening by the Washington Navy Yard, Washington, D. C., Hanson Van Winkle-Munning Co., Matawan, N. J., was the low bidder on 4,000 lbs. metal cleaner at 5.5c per lb.

Hypochlorite Award

Mathieson Alkali Works, New York, was awarded a contract for 2,385 lbs. calcium hypochlorite at 25.5c per lb. in a recent opening by the Army Quartermaster Corps, Boston.

Percy Anderson Dies

Percy E. Anderson, president of John H. Rodriguez Co., drug broker, New York, who had been closely identified with the botanical drug trade for nearly forty years, died recently of pneumonia at Montclair, N. J., following a six months' illness. He was sixty-eight years of age.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427 WASHINGTON STREET, NEW YORK, N. Y.

NEW TRADE MARKS

The following trade-marks were published in the June issues of the *Official Gazette* of the United States Patent Office in compliance with Section 6 of the Act of September 20. 1905. as amended March 2. 1907. Notice of opposition must be filed within thirty days of publication. As provided by Section 14, fee of ten dollars must accompany each notice of opposition.

Trade Marks Filed

KEMI-KLOTH — This in solid letters describing chemical polishing cloth. Filed by Haag Laboratories, Chicago, Mar. 3, 1941. Claims use since Jan., 1941.

365—This in solid letters over semi-circular background describing shaving cream. Filed by F. E. Everson, New York, Mar. 24, 1941. Claims use since Mar. 21, 1941.

GO-WAC-CO—This in solid letters describing metal polish. Filed by Golden Wax Cleanser Co., Clarksville, Tenn., Mar. 25, 1941. Claims use since Mar. 17, 1941.

GOLDEN WAX CLEANSER—This in solid letters describing cleanser. Filed by Golden Wax Cleanser Co., Clarksville, Tenn., Mar. 25, 1941. Claims use since Jan., 1929.

"KLEANVAK" — This in solid letters describing cleaner. Filed by Golden Wax Cleanser Co., Clarksville, Tenn., Mar. 25, 1941. Claims use since Jan., 1935.

"PED-O-SAV" — This in solid letters describing athlete's foot preparation. Filed by Ped-O-Sav Co., Montclair, N. J., Mar. 8, 1941. Claims use since Feb. 20, 1941.

NEV-ETT—This in solid letters describing insecticide. Filed by Neville & Everett, Scotland Neck, N. C., Mar. 26, 1941. Claims use since Jan. 15, 1939.

KILMICE—This in solid letters over circular illustration of two mice describing mouse exterminator. Filed by Nott Mfg. Co., N. Y., Apr. 7, 1941. Claims use since June, 1936.

DRENE SUPREME — This in semi-script letters describing shampoo. Filed by Procter & Gamble Co., Cincinnati, Apr. 22, 1941. Claims use since Feb. 21, 1941.

LUSTA-WAX — This in heavy letters describing shoe wax. Filed by B. B. Chemical Co., Boston, Jan. 13, 1941. Claims use since Oct. 21, 1940.

DREV—This in outline letters describing soap. Filed by Chas. W. Young & Co., Phila., Mar. 14, 1941. Claims use since Feb. 25, 1941.

DIS PUR SOIL—This in solid letters describing detergent. Filed by Fuld Bros., Baltimore, Mar. 22, 1941. Claims use since 1934.

FILM-FITER—This in solid letters over drawing of pugilist describing cleaner. Filed by Bay West Paper Co., Green Bay, Wisc., Mar. 27, 1941. Claims use since Jan. 2, 1941.

REPRESENTATION—Portrait of George Washington, Thomas Jefferson, and Abraham Lincoln describing soap. Filed by Peter J. Nepper, Rapid City, S. Dakota., Apr. 11, 1941. Claims use since Jan. 22, 1940.

WAID—This in solid letters over words "By Bellin" describing foot bath preparation. Filed by Bellin's Wonderstoen Co., N. Y., Apr. 2, 1941. Claims use since Mar. 15, 1941.

DE-MAR—This in ragged letters describing polish. Filed by Walter De-Mar Co., Des Moines, Iowa, Mar. 5, 1941. Claims use since Jan. 1, 1939.

PERMA-SPRAY — This in solid letters over words "100 per cent Permanent Moth Proofing" describing insecticide. Filed by Associated Products Co., Columbus, O., Nov. 2, 1940. Claims use since June 1, 1940.

CALTEX—This in solid letters over star describing fly sprays. Filed by California Texas Oil Co., New York, Nov. 19, 1940. Claims use since Jan., 1938.

THRIFT—This in solid letters describing insecticide. Filed by Derris, Inc., New York, Mar. 22, 1941. Claims use since Mar. 1, 1941.

PENORITE—This in block letters describing motor cleaner. Filed by Penorite Products Co., Long Island City, Mar. 24, 1941: Claims use since Apr. 5, 1940.

TARTOX—This in solid letters describing insecticide. Filed by Stauffer Chemical Co., San Francisco, Apr. 14, 1941. Claims use since July 20, 1939.

CAREER—This in solid letters describing shampoo. Filed by Kinghill Laboratories, N. Y., Apr. 18, 1941. Claims use since Apr. 9, 1941.

ULTRA—This in script letters describing insecticide. Filed by Chemurgic Corp., Richmond, Calif., Apr. 12, 1941. Claims use since Mar. 27, 1941.

REPRESENTATION—Drawing of flask inside concentric C's describing insecticide. Filed by Chemurgic Corp., Richmond, Calif., Apr. 30, 1941. Claims use since Mar. 27, 1941.

COMPOUND "M" — This in solid letters describing dust wetting agent. Filed by Johnson-March Corp., New York, Mar. 25, 1941. Claims use since July 13, 1940.

JUNE BRIDE — This in script letters over drawing of bride describing shoe cleaner. Filed by June Bride Products Co., Birmingham, Ala., Apr. 5, 1941. Claims use since Apr. 1, 1941.

ERLITE — This in semi-script letters describing dental plate cleaner. Filed by Earl C. West, Mora, Minn., Apr. 21, 1941. Claims use since Feb. 10, 1941.

IRVIN—This in solid letters on white and black background describing cleaner. Filed by Irving M. Merdinger, N. Y., Feb. 25, 1941. Claims use since July 3, 1939.

Trade Marks Granted

387,304. Insecticide. Tony's Pesticide Co., Telluride, Colo. Filed May 24, 1940. Serial No. 432,313. Published Dec. 17, 1940. Class 6.

387,335. Dental cream. Leon Charlamb, New York. Filed Nov. 8, 1940. Serial No. 437,673. Published Feb. 25, 1941. Class 6.

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DRYMET compounds are "longer-mileage" cleaners with more active ingredients per pound and more cleaning power per dollar.

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387,380. Cleaner. Permorite Products Co., Los Angeles. Filed Dec. 16, 1940. Serial No. 438,871. Published Mar. 4, 1941. Class 4.

387,400. Soap. Manhattan Soap Co., New York. Filed Dec. 24, 1940. Serial No. 439,164. Published Mar. 4, 1941. Class 4.

387,409. Toothpaste and shampoo. Simon Kleinkramer, New York. Filed Jan. 4, 1941. Serial No. 439,412. Published Mar. 4, 1941. Class 6.

387,410. Toothpaste and shampoo. Simon Kleinkramer, New York. Filed Jan. 4, 1941. Serial No. 439,413. Published Mar. 4, 1941. Class 6.

387,413. Glycerine. Colgate-Palmolive-Peet Co., Jersey City. Filed Jan. 10, 1941. Serial No. 439,536. Published Feb. 25, 1941. Class 6.

387,484. Washing fluid. Patti Products, Geneva, N. Y. Filed July 19, 1940. Serial No. 434,159. Published March 11, 1941. Class 4.

387,497. Cleaner. Nylon-Nene Mfg. Co., Chicago. Filed Sept. 14, 1940. Serial No. 435,990. Published March 11, 1941. Class 4.

387,502. Cleaner. Addison-Proctor Co., Newark. Filed Oct. 9, 1940. Serial No. 436,785. Published March 11, 1941. Class 4.

387,541. Insecticide. Tersch Patents and Chemicals, Inc., New York. Filed Dec. 27, 1940. Serial No. 439,243. Published Mar. 11, 1941. Class 6.

387,543. Polishing wax. Hall-Watson Co., New York. Filed Dec. 30, 1940. Serial No. 439,273. Published Mar. 11, 1941. Class 16.

387,544. Soap. Hall-Watson Co., New York. Filed Dec. 30, 1940. Serial No. 439,274. Published March 11, 1941. Class 4.

387,546. Moth proof. H. W. Featherstone & Co., Worcester, Mass. Filed Dec. 31, 1940. Serial No. 439,305. Published March 11, 1941. Class 6.

387,580. Dentifrice. Mack Dental Co., Monterey, Calif. Filed Jan. 27, 1941. Serial No. 440,012. Published Mar. 11, 1941. Class 6.

387,654. Cleaner. Cleveland Cleaner and Paste Co., Cleveland. Filed Aug. 12, 1940. Serial No. 434,898. Published Mar. 18, 1941. Class 4.

(*Turn to page* 125)

"Times" Toilet Soap Survey

A study of toilet soap sales by drug and grocery stores in the New York market has just been concluded by the *New York Times*, and the results published in a 40-page booklet. The survey covered 300 drug stores and 500 grocery stores, so selected as to give accurate weight to high, medium and low income sections.

In the drug field the survey disclosed a striking disparity among sales totals for stores in the three different groups. In the high income bracket the average weekly toilet soap sale per 1,000 families served was shown to be 1,082, while this figure dropped to 438 for stores in medium income neighborhoods and to 276 for stores in the low income classification.

In the grocery field the spread between the groups was not nearly so marked, and the average weekly sale per 1,000 families served was shown to be considerably higher. The average weekly sale per 1,000 families in the high income group was 3,447 cakes of toilet soap, dropping to 2,032 for the medium bracket, and to 2,095 for the low income neighborhoods.

Distribution of various brands in the drug stores was shown to be much better in high or medium income neighborhoods, than in low income neighborhoods. In grocery stores the distribution picture was a different one, with most brands having good distribution in all income neighborhoods. Copies of the survey results are available to soap makers thru the *New York Times*.

Chicago Association Golf

The second tournament of the Golf Auxiliary of the Chicago Drug and Chemical Perfumery, Soap and Extract Associations was held June 10th at Olympia Fields Country Club. In spite of cold, rainy weather a sizable crowd of members and guests were on hand for golf and dinner. Prize winners were as follows: Class A—1st, H. G. Larson; 2nd, H. S. Lyon; 3rd, J. A. A. Scott; Class B—1st, W. H. Schutte; 2nd, A. O. Nelson; 3rd, H. J. Edmon; Class C—1st, Dean Hildebrandt; 2nd, J. A. Gauer; 3rd, P. Schuperth. Guest prizes were won by W. H. Weise, H. B. Hobbs, Dr. Hendry and A. E. Sewell. The next tournament will be held July 9th at Tam O'Shanter C. C.

Kirk Beams Still in Use

Memories of Chicago's historic old Kirk Soap Factory were revived when the contents of an Evanston, Ill., home were offered at auction June 10. Included among the objects sold were a library desk, prie dieu, choir stall and other pieces of fine furniture which had been wrought from oak timbers that were formerly incorporated in the old factory building. The timbers, chiefly ceiling joists, had been hauled to Chicago by ox team more than a century ago. When the factory at Michigan avenue and the river, was dismantled a few years ago, the salvaged lumber was obtained by two sisters, who had the various pieces of furniture made from it.

New Colgate Export Company

Colgate-Palmolive Co. has been formed by Colgate-Palmolive-Peet Co., Jersey City, to handle sales in foreign countries which were formerly made through agents.

Ahles To Represent Ungerer

Harry J. Ahles has just been appointed by Ungerer & Co., New York, perfuming materials, as special representative for the Chicago territory. Mr. Ahles will handle special accounts in the Chicago district, his offices being located at 350 North Clark St. George H. Becker is the new manager of the Chicago office of Ungerer & Co., located at 325 West Huron St. He succeeds E. M. Tysdal who leaves to join the Goldschmidt Corp. in New York.

Hardesty Builds on Coast

W. C. Hardesty Co., manufacturer of stearic acid, red oil and hydrogenated fatty acids, is building a 3,000 square-foot addition to its Los Angeles plant.

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Standard I. & D. Method For Testing Liquid Household Insecticides

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The new 1941 BLUE BOOK contains not only the complete text of the PEET-GRADY test, but also the Seil Method, the Gnadinger-Corl Method, the Wilcoxon-Holaday Method and the Crystalization Rotenone Method. The new BLUE BOOK also contains articles on the following subjects:

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▼

MACNAIR-DORLAND CO.

Publishers of *Soap & Sanitary Chemicals*

254 WEST 31st ST. NEW YORK, N. Y.

RAW MATERIAL MARKETS

As of June 23, 1941

NEW YORK—A steady, generally upward trend in prices continued to prevail in the market for raw materials used in the manufacture of soaps and sanitary products during the month. Among the fatty soap stocks some remained very close to levels quoted a month ago, tallow and grease being quoted slightly lower and coconut oil remaining at about the same level. Higher than a month ago are cottonseed oil, which is at a high for the past four years, corn oil, palm oil, soybean oil and all of the fatty acids. Until recently, the fatty acids had been depressed in respect to the prices of the materials from which they are made but they are now in strong demand. Among the esssential oils, the number of price advances far exceeded the number of reductions during the past month due primarily to the continued tightness of the shipping situation. Advances also became effective on certain of the aromatic chemicals. Rock salt was advanced in price during the period as were cresol, certain grades of tar acid oils, phenol, and acetone. All grades of beeswax, carnauba wax and rotenone bearing roots again figured in the price advance. Pyrethrum extracts and powder were reduced slightly, while other insecticide materials held to last month's levels.

Animal Fats

Transactions in tallow for the most part have been confined to small or moderate lots, the large buyers holding off, and offerings continuing light. Current market prices on tallow are ¼ cent per pound above those of a month ago. Extra tallow is now being quoted at 8¼ cents a pound, f.o.b., N. Y., while special is 8⅛ cents a pound. More activity is taking place in trading in lard and price advances during the month have amounted to approximately ⅞ cent a pound. Of interest is a recent report by the Bureau of Agricultural Economics, Washington, D. C., on the oils and fats situation in which it is stated that present indications point to a smaller reduction in the output of lard and greases in the United States this year than had been anticipated earlier. If these indications are correct, total production of fats and oils in the United States from domestic materials in 1941 may be slightly above the record output of 1940.

Vegetable Oils

After falling off slightly during the first half of the month, coconut oil was advanced again to be quoted at a nominal price of 7¼ cents a pound for the crude material, tanks, nearby. On the Pacific Coast, the current quotation is 6½ cents a pound, also nominal. Copra has been reported very firm in the Philippines and difficult to purchase at prices compatible with current prices on the oil which prevail in the United States. It is expected that imports will continue in fair volume through July but after the beginning of August, it will be problematical whether vessels will be withdrawn from regular runs and it is not known whether they will be replaced if withdrawn. Current prices of other vegetable oils used in the manufacture of soaps are as follows: 5¾ cents a pound for palm oil, Sumatra, tanks, as compared with 5½ cents a month ago; 10 to 10¼ cents a pound for soybean oil, tanks, old crop, as compared with 9 to 9⅛ cents last month; 11½ cents a pound for corn oil. West, tanks, nearby, as compared with 10½ cents last month; 16½ to 16¾ cents a pound for olive foots, prime green, drums, as compared with 14½ cents last month; and 20 cents a pound for teaseed oil, as compared with 18¾ cents a pound last month. Denatured olive oil was reduced about 50 cents a gallon during the month to a current price of $3.50 to $3.75 a gallon in drums. The vegetable oil fatty acids, slow in keeping up with price advances in the vegetable oils because of large existing low-priced stocks, were advanced during the month although prices are still considered relatively low.

Essential Oils

The following essential oils are now priced higher than a month ago: birch tar, bois de rose, juniper tar, cajeput, camphor, cananga, caraway seed, cedar leaf, citronella Java, clove, eucalyptus, Italian lemon, linaloe, nutmeg, California orange, petitgrain, and vetiver. Those at lower levels than a month ago include sweet almond, natural bergamot, hemlock, pennyroyal, peppermint, spearmint and sassafras.

End Trade In Tallow Futures

Trading in tallow futures on the New York Produce Exchange was suspended June 5 after a vote at a meeting of the board of directors.

Mixing Equipt. Names Bissell

E. S. Bissell was recently made a vice-president of Mixing Equipment Co., Rochester, N. Y., manufacturers of "Lightnin" mixers. Mr. Bissell joined the company in 1937. Prior to his promotion, he was technical sales manager and director of research of the company.

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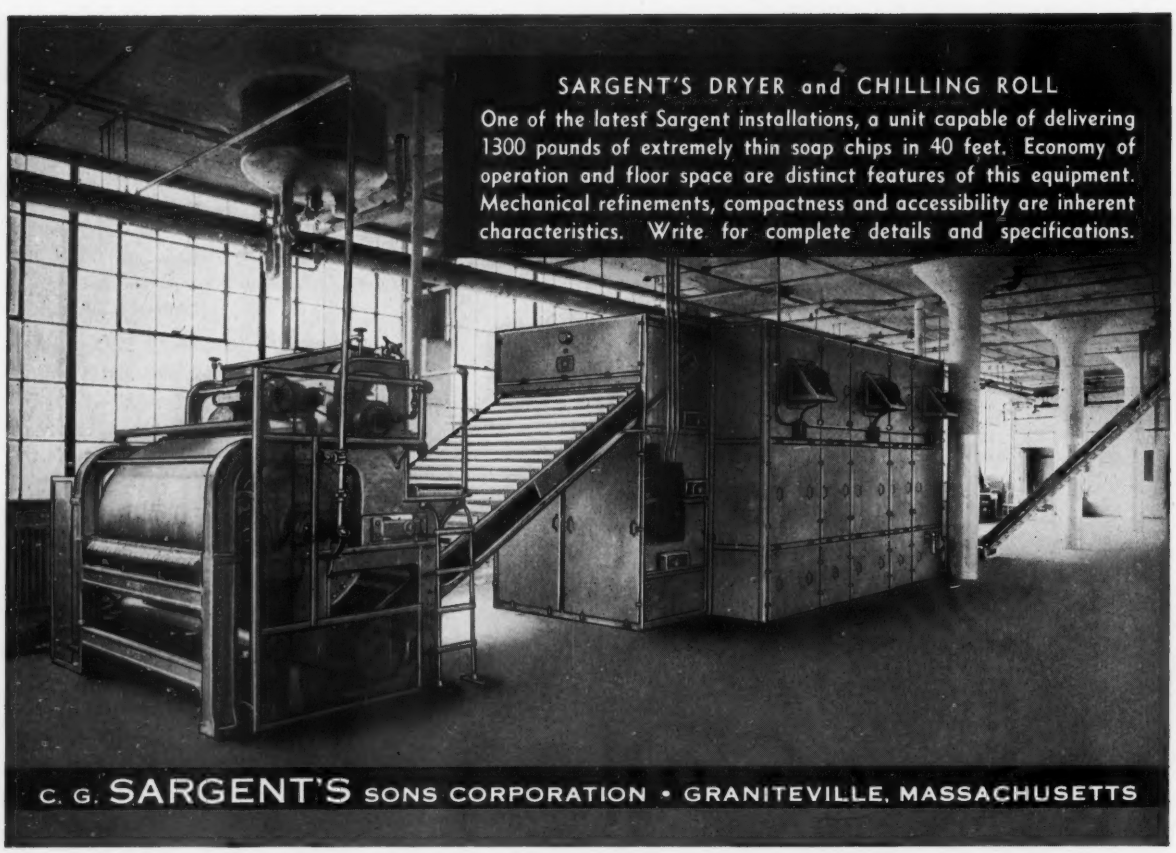
SARGENT'S DRYER and CHILLING ROLL
One of the latest Sargent installations, a unit capable of delivering 1300 pounds of extremely thin soap chips in 40 feet. Economy of operation and floor space are distinct features of this equipment. Mechanical refinements, compactness and accessibility are inherent characteristics. Write for complete details and specifications.
C. G. SARGENT'S SONS CORPORATION • GRANITEVILLE, MASSACHUSETTS

RAW MATERIAL PRICES

(As of June 23, 1941)

Minimum Prices are for car lots and large quantities. Price range represents variation in quotations from different suppliers and for varying quantities.

Chemicals

Acetone, C. P., drums	lb.	$ .08½	$ .09
Acid, Boric, bbls., 99½%	ton	96.00	128.00
Cresylic, drums	gal.	.68	.78
Low boiling grade	gal.	.68	.78
Muriatic, C. P., carboys	lb.	.08	—
Oxalic, bbls.	lb.	.10¾	.12
Adeps Lanae, hydrous, drums	lb.	.24½	.25
Anhydrous, drums	lb.	.26½	.27
Alcohol, Ethyl, U.S.P., bbls.	gal.	6.02½	6.09
Complete Denat., SD1, dms., ex.	gal.	.33	.39
Alum. Potash lump, bbls.	lb.	.04	—
Ammonia Water, 26°, drums	lb.	.02¼	.02½
Ammonium Carbonate, tech., bbls.	lb.	.08	—
Bentonite, 1, works, 325 mesh	ton	16.00	—
Bentonite, 2, works, 200 mesh	ton	11.00	—
Bleaching Powder, drums	100 lb.	2.00	3.35
Borax, pd., cryst., bbls., kegs	ton	58.00	74.00
Carbon Tetrachloride, car lots	gal.	.66½	1.10
L. C. L.	gal.	.73	1.20
Caustic, see Soda Caustic, Potash Caustic			
China Clay, filler	ton	10.00	16.00
Cresol, U.S.P., drums	lb.	.10¼	.10¾
Creosote Oil	gal.	.13½	.14½
Feldspar, works (200 to 325 mesh)	ton	32.00	35.00
Formaldehyde, bbls.	lb.	.05½	.06
Fullers Earth	ton	15.00	—
Glycerine, C.P., drums	lb.	.14½	—
Dynamite, drums	lb.	—	Nom.
Saponification, drums	lb.	.11½	.12¼
Soap, lye, drums	lb.	.09	—
Hexalin, drums	lb.	.30	—
Lanolin, see Adeps Lanae.			
Lime, live, bbls.	ton	6.25	13.00
Mercury Bichloride, kegs	lb.	2.04	2.19
Naphthalene, ref. flakes, bbls.	lb.	.07	.07¼
Nitrobenzene (Mirbane) drums	lb.	.08	.09
Paradichlorbenzene, drums	lb.	.11	.13½
Petrolatum, bbls. (as to color)	lb.	.02¾	.07½
Phenol (Carbolic Acid) drums	lb.	.13¼	—
Pine Oils, bbls.	gal.	.50	.59
Potash, Caustic, solid	lb.	.06¼	.06¾
Flake, 88-92%	lb.	.07	—
Liquid, 45% basis	lb.	.02⅞	.03¾
Potassium Carbonate, solid	lb.	.06½	.06¾
Liquid	lb.	.02¾	.03⅛
Pumice Stone, powder	100 lb.	No Prices	
Rosins (net wt., ex yard, New York)—			
Grade D to H	100 lb.	2.54	2.55
Grade I to N	100 lb.	2.57	2.84
Grade WG to X	100 lb.	2.91	3.16
Wood, ex. dock	100 lb.	1.70	2.00
Rotten Stone, pwd., bbls.	lb.	.12¾	.18¾
Silica	ton	20.00	27.00
Soap, Mottled	lb.	.04⅛	.04½
Olive Castile, bars	lb.	.28	.38
Olive Castile, powder	lb.	.33	.40
Powdered White, Neutral	lb.	.24	—
Olive Oil Foot, bars, 68-70%	lb.	.18	—
Green, U.S.P.	lb.	.09	.10
Tallow Chips, 88%, car lots	lb.	.09½	—
Soda Ash, cont., wks., bags, bbls.	100 lb.	1.10	1.35
Carlots, in bulk	100 lb.	.90	.95
Soda Caustic, cont., wks., solid	100 lb.	2.30	—
Flake	100 lb.	2.70	2.95
Liquid, tanks, 47-49%	100 lb.	1.95	—
Soda Sal., bbls.	100 lb.	1.10	1.30
Sodium Chloride (Salt)	ton	14.20	16.60
Sodium Fluoride, bbls.	lb.	.07	.08¼
Sodium Hydrosulfite, bbls.	lb.	.16	.17
Sodium Metasilicate, ground	100 lb.	3.75	4.80
Crystalline	100 lb.	2.35	3.35
Sodium Pyrophosphate	100 lb.	5.10	5.60
Sodium Silicate, 40 deg., drum	100 lb.	.80	1.20
Drums, 52 deg. wks.	100 lb.	1.40	1.80
Tar Acid Oils, 15-25%	gal.	.22	.29½
Triethanolamine	lb.	.19	.20
Trisodium Phosphate, bags, bbls.	100 lb.	2.35	3.05
Zinc Oxide, lead free	lb.	.06½	.07

Oils — Fats — Greases

Babassu, tanks, futures	lb.	.09¾	Nom.
Castor, No. 1, bbls.	lb.	—	.11¾
No. 3, bbls.	lb.	—	.11½
Coconut (without excise tax)			
Manila, tanks, N. Y.	lb.	.07¼	—
Tanks, Pacific Coast, futures	lb.	.06½	—
Copra, bulk, coast	lb.	—	Nom.
Corn, tanks, West	lb.	.11½	—
Cottonseed, crude, tanks, mill	lb.	.10½	.11
PSY, futures	lb.	.11½	.12⅛
Fatty Acids—			
Corn Oil, tanks, Chicago	lb.	.11½	.11¾
Coconut Oil, tanks, Twitchell, Chi.	lb.	.14	.14½
Cotton Oil, tanks, Chicago	lb.	.09¾	.10
Settled soap stock, Chicago	lb.	.03⅝	.03⅞
Boiled soap stock, 65%, Chi.	lb.	.04⅝	.04⅞
Foots, 50%, Chicago	lb.	.02⅝	.02⅞
Red Oil, bbls., dist. or sapon.	lb.	.11	.12
Tanks	lb.	.10¼	—
Stearic Acid, saponif.			
Double pressed	lb.	.13½	.14½
Triple pressed	lb.	.16¼	.17¼
Greases, choice white, tanks	lb.	.07¾	—
Yellow	lb.	.07¼	—
Lard, city, tubs	lb.	.10⅞	—
Linseed, raw, bbl.	lb.	.1070	.1090
Tanks, raw	lb.	.1000	.1020
Olive, denatured, bbls., N. Y.	gal.	3.50	3.75
Foots, bbls., N. Y.	lb.	.16½	.16¾
Palm, Sumatra, cif. New York, tanks	lb.	.05¾	—
Palm, kernel, shipment	lb.	No Prices	
Soya Bean, domestic, tanks, crude	lb.	.10	.10¼
Stearin, oleo, bbls.	lb.	.09¼	.09½
Tallow, special, f.o.b. N. Y.	lb.	.08⅛	—
City, ex. loose, f.o.b. N. Y.	lb.	.08¼	—
Teaseed Oil, crude	lb.	.20	.20½
Whale, refined	lb.	.0950	—

Gravity Feed Systems are *Permanent*

You can install a Bobrick gravity feed soap system and forget about it—service goes merrily on and your customer keeps buying soap. Ideal for large installations. Janitor merely fills the supply tank instead of bothering with each individual dispenser. More customers are switching to Bobrick gravity systems every day.

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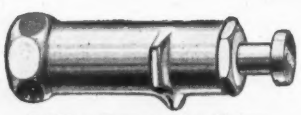

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C-861 — Dispenses Lather

8 different types of soap dispensing valves to fit on pipes leading from soap tanks. 15 different tanks. Complete line of fittings for outside or inside wall pipe installations.

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Pure

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COCO-CASTILE, POWDERED
50-50

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POTASH SOAPS

Liquid Olive Oil Soap Shampoo
Liquid Coconut Oil Soap Shampoo
Liquid Castile Soap Shampoo
Shampoo Base (Olive Oil & Coconut Oil)
Oil Soaps Scrubbing Soaps

KRANICH SOAP COMPANY
56 Richards St. Brooklyn, N. Y.

SOAPS

(As of June 23, 1941)

Essential Oils

Almond, Bitter, U.S.P.	lb.	—	—
Bitter, F.F.P.A.	lb.	—	—
Sweet, cans	lb.	$1.70	$1.90
Anise, cans, U.S.P.	lb.	.78	.85
Bay, 55-60% phenols, cans	lb.	1.00	1.35
Bergamot, coppers	lb.	20.00	Nom.
Artificial	lb.	3.75	9.25
Birch Tar, rect., cans	lb.	1.70	1.85
Crude, cans	lb.	.60	.75
Bois de Rose, Brazilian	lb.	2.60	3.00
Cayenne	lb.	—	—
Cade (juniper tar), cans	lb.	.70	.85
Cajeput, native, cans	lb.	.85	1.00
Calamus, cans	lb.	—	—
Camphor, Sassy, drums	lb.	.19½	.25
White, drums	lb.	.22	.26
Cananga, native, cans	lb.	8.00	8.50
Rectified, cans	lb.	8.75	9.00
Caraway Seed	lb.	9.50	Nom.
Cassia, Redistiller, U.S.P.	lb.	2.75	3.00
Cedar Leaf, cans	lb.	.95	1.35
Cedar Wood, light, drums	lb.	.27	.30
Citronella, Java, drums	lb.	.50	.54
Citronella, Ceylon, drums	lb.	.50	.52
Clove, U.S.P., cans	lb.	1.20	1.25
Eucalyptus, Austl., U.S.P., cans	lb.	.66	.70
Fennel, U.S.P., cans	lb.	2.00	2.35
Geranium, African, cans	lb.	12.50	Nom.
Bourbon, cans	lb.	12.50	Nom.
Turkish (Palmarosa)	lb.	3.20	4.00
Hemlock, tins	lb.	.90	1.25
Lavender, 30-32% ester, cans	lb.	7.25	8.00
Spike, Spanish, cans	lb.	2.55	3.00
Lemon, Ital., U.S.P.	lb.	5.50	Nom.
Cal.	lb.	3.25	—
Lemongrass, native, cans	lb.	1.90	Nom.
Linaloe, Mex., cases	lb.	2.50	2.85
Nutmeg, U.S.P., cans	lb.	2.30	2.65
Orange, Sweet, W. Ind., cans	lb.	—	—
Italian cop	lb.	8.00	Nom.
Distilled	lb.	1.40	—
California, expressed	lb.	3.00	—
Origanum, cans, tech	lb.	1.50	2.45
Patchouli	lb.	4.85	6.00
Pennyroyal, dom.	lb.	2.50	2.65
Imported	lb.	2.40	2.75
Peppermint, nat., cans	lb.	3.40	3.50
Redis., U.S.P., cans	lb.	3.65	4.15
Petitgrain, S. A., cans	lb.	1.45	1.55
Pine Needle, Siberian	lb.	1.45	1.75
Rosemary, Spanish, cans	lb.	.88	.93
drums	lb.	.85	1.00
Sandalwood, E. Ind., U.S.P.	lb.	4.65	5.00
Sassafras, U.S.P.	lb.	1.05	1.20
Artificial, drums	lb.	.73	.77
Spearmint, U.S.P.	lb.	2.45	2.80
Thyme, red, N. F.	lb.	1.40	2.25
White, N. F.	lb.	.95	2.50
Vetiver, Java	lb.	7.25	7.75
Ylang Ylang, Bourbon	lb.	14.00	Nom.

Aromatic Chemicals

Acetophenone, C. P.	lb.	$1.35	$1.45
Amyl Cinnamic Aldehyde	lb.	1.70	2.00
Anethol	lb.	1.10	1.15
Benzaldehyde, tech.	lb.	.45	.55
N. F. VI	lb.	.85	.95
Benzyl, Acetate	lb.	.44	.48
Alcohol	lb.	.63	.68
Citral	lb.	3.00	4.00
Citronellal	lb.	1.50	2.25
Citronellol	lb.	1.75	2.00
Citronellyl Acetate	lb.	4.00	7.00
Coumarin	lb.	2.75	3.25
Cymene, drums	gal.	.90	1.25
Diphenyl oxide	lb.	.43	.50
Eucalyptol, U.S.P.	lb.	.80	.90
Eugenol, U.S.P.	lb.	2.00	2.10
Geraniol, Soap	lb.	.65	1.00
Other grades	lb.	1.25	2.05
Geranyl Acetate	lb.	1.20	2.50
Heliotropin	lb.	3.00	3.40
Hydroxycitronellal	lb.	2.50	2.75
Indol, C. P.	lb.	32.00	34.00
Ionone	lb.	2.75	3.95
Isoborneol	lb.	.90	1.07
Iso-bornyl acetate	lb.	.80	.95
Iso-Eugenol	lb.	2.80	4.25
Linolool	lb.	3.75	4.00
Linalyl Acetate	lb.	2.75	5.00
Menthol	lb.	3.65	4.25
Methyl Acetophenone	lb.	2.50	3.00
Anthranilate	lb.	2.00	2.30
Paracresol	lb.	4.50	6.00
Salicylate, U.S.P.	lb.	.35	.40
Musk Ambrette	lb.	3.75	4.20
Ketone	lb.	3.90	4.35
Xylol	lb.	1.15	1.55
Phenylacetaldehyde	lb.	4.00	4.10
Phenylacetic Acid	lb.	1.45	1.95
Phenylethyl Alcohol	lb.	2.10	2.50
Rhodinol	lb.	5.50	10.90
Safrol	lb.	1.00	1.03
Terpineol, C.P., drs.	lb.	.27	—
Cans	lb.	.30	—
Terpinyl Acetate, 25 lb. cans	lb.	.80	.85
Thymol, U.S.P.	lb.	1.50	1.60
Vanillin, U.S.P.	lb.	2.50	2.75
Yara Yara	lb.	1.45	1.50

Insecticide Materials

Insect Powder, bbls.	lb.	.22	.24
Pyrethrum Extract			
5 to 1	gal.	1.15	1.20
20 to 1	gal.	4.40	4.60
30 to 1	gal.	6.60	6.90
Derris, powder—4%	lb.	.24	.25
Derris, powder—5%	lb.	.27	.28
Cube, powder—4%	lb.	.22	.25
Cube, powder—5%	lb.	.25	.28
Squill, red, dried	lb.	.80	1.25
Phosphorus paste	lb.	.25	.62½

Waxes

Bees, white	lb.	.41	.45
African, bgs.	lb.	.30	Nom.
Refined, yel.	lb.	.39	.40
Candelilla, bgs.	lb.	.22	.22½
Carnauba, No. 1, yellow	lb.	.73	.74
No. 2, N. C.	lb.	.68	.69
No. 3, Chalky	lb.	.62	.63
Ceresin, yellow	lb.	.11	.14½
Montan Wax	lb.	No Prices	
Paraffin, ref., 125-130	lb.	.0570	—

Undesirable Colorless Impurities

Are Removed By Treatment With

ACTIVE CARBON

Although active carbon has long been used to remove color and odor from oils to be used for soap, only recently has it been recognized that *undesirable colorless impurities* such as peroxides and pro-oxidants are also removed by this treatment. Soaps made from stable oils have less tendency to spot, chip, or become discolored.

Some soap manufacturers have extended the use of active carbon to treat certain types of unrefined oils and fats for direct conversion into soap without caustic refining. When the free fatty acids in tallow are less than 4%, it is often possible to decolorize from an original color F.A.C. 11.0 to F.A.C. 1.0, using 0.5% of a suitable carbon. For unrefined cocoanut oil the average dose is 0.25%.

The advantage of applying active carbon to the unrefined oil includes complete utilization of free fatty acids for manufacture of soap; improvement in color, odor, and stability of the finished soap. Investigate the possibilities of NUCHAR Active Carbon in the treatment of your fats. Write for sample today.

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PRODUCTION SECTION

A section of SOAP devoted to the technology of oils, fats, and soaps published prior to Jan. 1, 1932, as a separate magazine under the title, Oil & Fat Industries.

Identification of Detergents

ACTUAL identification of a proprietary detergent is usually not as important as the determination of the general class to which it belongs. A system which is a start in this direction, although obviously incomplete in view of the flood of new products, divides wetting agents and detergents into 8 groups:

1. Ordinary soaps and special soaps containing solvents for oils and fats (Lanapol Extra).
2. Sulfonated oils (Turkey red oil, Monopole).
3. Highly sulfonated or condensed oils (Avirol AH Extra, Humectol CX).
4. Naphthalene sulfonic acids or their salts (Nekal BX).
5. Fatty alcohol sulfates (Gardinols, Product CDF, Jokalin).
6. Fatty acid condensation products (Igepons).
7. Protein fatty acid condensation products (Lamepon A).
8. Ethylene oxide condensation products (Peregal O, Igepal).

To test, dissolve about 30 mg. of solid sample or 3-5 drops of liquid in distilled water and cool. When sulfate is sought in groups 5 and 6, 0.5 gram of the substance is dissolved in 6-8 cc. of alcohol. A number of proprietary products contain inorganic matter such as sodium sulfate.

Dissolve the unknown sample in 1 cc. of distilled water and boil briefly with 3 cc. of 5 per cent acetic acid. Also dissolve in 1 cc. of distilled water and boil with calcium chloride solution containing an equivalent of 20 parts of calcium oxide per 100,000 parts of water. If the material is decomposed or precipitated in both cases, it is soap or a sulfonated oil. If some of the dried substance is then dissolved in alcohol, filtered, evaporated and ashed, only the sulfonated oil will respond to the test for sulfate ions.

If the material is not broken down in the first two tests, dissolve another portion in 3 cc. of water and add 1 drop of concentrated hydrochloric acid. A pronounced turbidity indicates a highly sulfonated oil or protein fatty acid condensation product.

These can be differentiated because the latter responds to the biuret reaction, which is a test for peptides, proteins, and amino acids which contain the CONH group. Add potassium hydroxide solution and a few drops of copper sulfate solution. A pinkish violet color is a positive biuret test. A protein-fatty acid condensation type of product also reacts with strong hydrochloric acid to give a yellow to brown color and a fish-like odor.

If the material has not yet responded, dissolve a sample in 2 cc. of distilled water, add 5 cc. of strong hydrochloric acid, boil three times, letting stand 2-3 minutes in between, and pour with stirring into 10 cc. of distilled water. A strong turbidity indicates naphthalene sulfonic acid or fatty alcohol sulfate. The final distinction is made with copper sulfate, which gives a precipitate only with the latter, after some of the other groups have been eliminated.

If the unknown has not responded yet, it is either a fatty acid condensation product or an ethylene oxide condensation product. To determine which, try the Lassaigne nitrogen test which identifies the first. It also dissolves in alcohol and if the alcohol extract is evaporated and ashed, the ash responds to the test for sulfate. The ethylene oxide product does not form an ash. The Lassaigne test is a reaction for nitrogen in organic substances. On heating a nitrogenous substance with metallic sodium, sodium cyanide is formed. The reaction product is dissolved in water and a little ferrous sulfate added, then a little ferric chloride and hydrochloric acid. A blue color developed is Prussian blue, and shows nitrogen to have been present.

If there is confusion between groups 2 and 3, the sulfonated and more highly sulfonated oils, a wetting-out test can be made in the hard water described above, which will be more definite than the indication from turbidity. The test solutions are made up in the proportion of 4 grams of product per liter of hard water. In solutions of products from the third groups, the agent is still active and gray cotton yarn sinks instantly, but with products from the second group, no wetting occurs in 15 minutes at room temperature.

Fatty acid condensation products decolorize 0.1 Normal permanganate almost at once, or change its color to yellow, while fatty alcohol sulfates do this only after long standing. Dissolve the usual amount of product in 10 cc. of distilled water and add 5 drops of permanganate solution. Materials containing active oxygen can also be recognized at this point because they will consume 5 or 10 times the amount of permanganate and the solution will be completely decolorized.

Ethylene oxide condensation products can also be distinguished from the others by use of rather concentrated sulfuric acid. On diluting the reaction mixture, the solution will lather as readily as before adding the acid, because the product is not attacked by this severe treatment. Most characteristic for this group is the entire absence of ash when its alcoholic solution is evaporated and ignited.

In applying the above, care must be taken not to be misled by some product which may respond to some of the tests but which is not included in this scheme of analysis. K. Linsenmeyer. *Melliand Textilber.* **21,** 468; through *Rayon Textile Mo.* **22,** 370-1 (1941).

Soap Stabilizers

Soaps can be stabilized by the addition of antioxidant odorant materials such as thymol, eugenol, isoeugenol, cis-isosafro-eugenol, and safrol, although safrol accelerates oxidation at first, but after some time shows a stabilizing influence. In general, soaps are also stabilized by amino acids, glycerine, diphenylamine, naphthol, hydroquinone, and hydroquinone derivatives. H. S. Henk. *Fette und Seifen* **48,** 90-91 (1941).

Autoxidation of Fats

In its early stages the autoxidation of fat probably is in the nature of a chain reaction. More than one chain mechanism may be operating. During the induction period a gradual activation of molecules is proceeding, and active fatty peroxide molecules are being formed. Accumulation of these and a greatly accelerated rate of oxygen absorption coincides with the first appearance of decomposition products arising from the rupture of the fatty acids at the double bonds, and the rapid oxidation of the fragments to aldehydes, per-acids and acids. Unsaturation may not be a limiting factor since new double bonds may be created.

Of oleic acid, methyl oleate, oleyl alcohol, and cis-9, 10-octadecene, the largest and most rapid uptake of oxygen occurred with oleyl alcohol. Water was an important autoxidation product of all of these compounds. Further study is needed to explain what happens during autoxidation. H. A. Mattill. *Oil & Soap* **18,** 73-6 (1941).

Stoddard Solvent Treatment

Recovery of dry-cleaning solvent was studied by comparing treatments with four adsorptive agents, alkali treatment, and vacuum distillation. Hydrocarbon peroxides formed by the action of light on the solvent are difficult to remove completely by any of these treatments. Distillation appears to give the best removal, followed closely by activated carbon. For removal of fatty-acid peroxide,—distillation, alkali treatment, or adsorption by magnesium silicate are equally effective. Activated carbon did not remove this type of peroxide as effectively as it did the hydrocarbon peroxides.

Alkali treatment completely neutralizes all acids as would be expected. Distillation is very effective in removing acidity from fatty acids. Of the adsorbents, activated carbon, magnesium silicate, and two brands of activated fuller's earth, activated carbon is the most effective in removing acids, followed closely by magnesium silicate.

Distillation showed a tendency to produce aldehydes in the solvent containing hydrocarbon peroxides, and did not remove those present in the solvent containing rancid fatty acid. Activated carbon did not remove aldehydes from solvent containing rancid fatty acids, but they were removed by magnesium silicate.

An acid number of 0.3 or a residue on evaporation of used solvent of 0.5 per cent, represent control points which, if exceeded, may lead to odor trouble or to poor cleaning.

The general conclusion is that adsorbent powders retard accumulation of fatty acids in Stoddard dry-cleaning solvent, and will remove odorous impurities to some extent, activated carbon ranking first, then magnesium silicate, then fuller's earths. C. S. Lowe and Adrian C. Smith. *Ind. Eng. Chem,* **33,** 762-8 (1941).

Lathering Power

The lathering power of soap and other detergents can be measured quantitatively by permitting the solution to drop from a fixed height into a solution of the same detergent, under standardized conditions. Curves for concentration of detergent against height of foam give the relative values for various products. John Ross and Gilbert D. Miles. *Oil & Soap* **18,** 99-102 (1941).

Ring Method

An equation has been developed by which results for determinations of interfacial tension by the ring method, between oil and water, agree with those obtained by capillary methods. A correction factor is introduced to extend the data of Harkins and Jordan for surface-tension measurements. H. H. Zuidema and G. W. Waters. *In. Eng. Chem., Anal. Ed.,* **13,** 312-13 (1941).

Fungicidal Paint Test

A CONVENIENT laboratory method for testing the mold-resistant properties of oil paints depends on the use of painted wooden disks, a rapid-growing Aspergillus forming dark brown spores serving as the test organism. Wooden disks 3 inches in diameter and 0.25 inch thick are cut from clear western white pine sapwood with the grain running parallel to the plane surface. The disks are sanded on all sides and the edges slightly rounded. For the sake of uniformity the panels are extracted with a high-solvency naphtha before being used.

The paint is applied according to the manufacturer's directions as to the priming, thinning, number of coats, drying time between coats, etc. In the absence of instructions two coats are applied according to good painting practice. To afford a direct comparison between the original and the fungicide-treated paints, one surface of each disk is divided by a shallow groove made with some blunt instrument along the diameter running parallel to the wood grain. One half is painted with the test paint, while the otehr half is painted with the original untreated paint. When the latter is not available some comparable paint known not to contain preservatives is used.

After at least five days have elapsed after application of the second coat, the panels are soaked overnight in distilled water and are then ready for seeding. The panels are wiped dry with a towel and are laid painted side down on a 36- to 42-hour old culture of mold 29, grown on malt agar in 10-cm. Petri dishes. The agar used contained 25 grams of malt extract, 2 grams of yeast extract, and 15 grams of agar per liter of water. After hardening, the agar is seeded by swabbing with a water suspension of the mold. The mold culture should be used when the sporangia are developing, but before they begin turning dark. The test panels are pressed down gently but firmly to ensure a good contact between the paint and the mold mycelium. They remain on the seeding culture for 20-24 hours at 25° C.

After seeding, the paint surface is gently sprayed with water from an atomizer to wash off agar particles or other extraneous matter. The disks are embedded painted side up in Petri dishes by means of paraffin. A groove remains between the edge of the disk and the side of the disk. Moisture is provided by spraying the painted surface from an atomizer and by placing 5 cc. of water in the groove, adding more water to the groove as evaporation takes place. The disks are incubated in a chamber at 25-30° and 60-70 per cent relative humidity.

Usually not more than three weeks are needed to obtain maximum growth, although with exceptionally hard paints a longer time may be required. The method has been used with excellent results for over 18 months. The grafting method of seeding has also been found applicable for testing the mold resistance of canvas, awnings, etc. and for seeding with molds other than the one recommended for paint testing.

After two years of extensive experimental work during which upward of 200 commercial paints of various types were tested, the writers have yet to see a paint that would not mold under the conditions of the procedure described above, unless a good preservative had been added. Alex M. Partansky and Robert R. McPherson. *Ind. Eng. Chem., Anal. Ed.* **12,** 443-5 (1940).

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Naphthenic Soap Emulsions

Emulsions were investigated made with triethanolamine soaps of naphthenic acids as emulsifiers. Technical triethanolamine was fractionally distilled *in vacuo*. Naphthenic acids of different molecular weights were saponified with triethanolamine to viscous, orange-yellow to dark brown soaps. Emulsion concentrates were prepared containing 85 per cent of kerosene or "L" machine oil and 15 per cent of soap, and 80 per cent of kerosene or the machine oil with 5 per cent of cresol and 15 per cent of soap. Cresol facilitates the solution of soap and stabilizes the emulsion. For the preparation of emulsions, the concentrates were diluted ten-fold with water in Eggerz tubes. Stable emulsions were obtained with soaps of naphthenic acids of molecular weights of not less than 250 for the kerosene emulsions and of not less than 500 for machine oil emulsions. The emulsions were stable at 70, 88 and 100° C. Their surface tension is small. N. A. Pleteneva. *Trans. Sci. Inst. Fertilizers Insectofungicides* (U.S.S.R.) **135,** 73-9; through Chem. Abs.

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Sodium Dehydroabietate

Details are given of the production of a number of esters and salts of dehydroabietic acid. The sodium salt may be used in soaps. E. R. Littmann, to Hercules Powder Co. U. S. Patent No. 2,201,237.

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Mobility of Detergents

The effects of temperature from 25° to 60° C., of chain length and of added electroyltes on the electrophoretic mobilities of oil drops, suspensions of wax, ilmenite and calcium laurate were investigated with the same experimental technique previously used. The maximum mobilities in such solutions are obtained at concentrations that decrease with increasing chain length. The extent of adsorption of the long-chain ions at the interfaces, as well as the change in viscosity of the dispersion medium, determine the temperature coefficient of mobility. The addition of 0.02 per cent of sodium chloride to 0.0005 per cent sodium lauryl sulfate solution at 60° C. increases the mobility considerably over that obtained in the absence of sodium chloride. J. Powney and L. J. Wood, *Trans. Faraday Soc.* **36,** 420-6 (1940); through Chem. Abs.

Report on Solubility Studies

Apparently it is possible to dissolve insoluble materials in any medium provided a suitable agent or detergent is added in very small quantity, it was stated by Prof. James W. McBain and R. C. Merril, Jr., of Stanford University, in reporting studies on solubilization during the Wilder D. Bancroft Colloid Symposium, held June 19-21 at Cornell University, Ithaca, N. Y. "This is one of the important and unexpected outcomes of the last decade of research on new materials to replace soaps for special purposes," the chemists declared.

"Soaps are the almost universal cleansers. Their solutions in water or dry cleaning liquids wet almost anything and they are thus the most familiar wetting agents. They are also extremely important for their power of suspending and emulsifying particles and droplets. However, it is only very recently that it has been definitely shown that soaps have this other power of solubilizing insoluble materials, such as oil dyes or chlorophyll, in water, or making substances that are soluble in water dissolve in gasoline or lubricating oil.

"It is shown that this is due to the constitution of these solutions which are known as colloidal electrolytes because soap molecules or ions get together in solution to form colloidal particles of definite architecture. These particles can then take up the other materials in layers, somewhat like a club sandwich.

"Now although soap has disadvantages, as for example for use in hard water, nothing else has been found to replace it for general purposes. However, thousands of substances have been patented, each of which has its special merit for some particular purpose. All of these so far studied have been proven to be colloidal electrolytes or colloids in the regions in which they produce solubilization. Many are operative in concentrates as low as 0.1 per cent. The number of colloidal electrolytes greatly outnumbers all acids and bases. There are well over a million possible substances in the so-called 'aerosol' group alone."

Fluorescence in Oil Analysis

Both oils and fatty acids give characteristic fluorescent colors in ultraviolet light, a property which may prove useful in the analysis of these materials. Oils to be investigated in this way should be extracted with solvents which do not themselves fluoresce, ethyl alcohol, for example, being unsuitable for this reason. Solvents which may be used include ethyl ether, pure petroleum ether, amyl alcohol and chloroform, none of which fluoresce in ultraviolet light.

A method of determining rancidity of oils is suggested, using chlorophyll, which gives a red fluorescence in ultraviolet light. As the rancidity of an oil increases, the amount of chlorophyll which must be added to the oil to give the characteristic red fluorescence, also increases. In this way the start of oxidation in an oil can be determined before any outward signs of oxidation appear. With the help of comparison values in which a "chlorophyll number" is determined, the degree of oxidation can be ascertained. *Seifensieder-Ztg.* **68,** 71 (1941).

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Re-esterification

To a mixture of 0.1 mol each of oleic, stearic, and lauric acids, and to a mixture of 0.1 mol of oleic and lauric acids, was added 0.28 mol of glycerin. Each mixture was heated 10-60 minutes at 220-50° C. The results obtained indicated that esterification was completed in 60 minutes, but the glycerides produced were of lower hydroxyl values than those of monoglycerides. In order to determine whether selective esterification occurred during the reaction, each glyceride was separated by means of the differing solubilities in 75 and 85 per cent alcohol at varying temperatures. It was found that the esterification of 2-component systems with an excess of glycerin proceeds selectively according to the nature of the individual fatty acid. S. Kawai. *J. Soc. Chem. Ind.*, Japan 43, Suppl. binding 428.

Soap Substitutes Unsatisfactory

Investigation of water softeners and new soap substitutes which has been conducted in the home economics laboratories of Montana Agricultural Experiment station, Bozeman, Mont., has resulted in the conclusion that "new soap substitutes are unsatisfactory for general home laundering" in that state. A brief progress report on the project is included in the station's annual report for the period ending June 30, 1940, from which the following is quoted:

"Much of the water in Montana is 'hard' and when soap is added for laundering purposes, an undesirable curd, composed of insoluble calcium and magnesium soaps, is formed. As a result there has been a need for economical, satisfactory water softeners or some new type of cleansing material. Recently some soap substitutes (sulfated or sulfonated fatty alcohols) have appeared on the market, claiming to possess great sudsing power, and to be usable in either hard or soft water. To test these claims, garments of cotton, linen, silk, rayon and wool, soiled by actual wear, have been laundered repeatedly in the laboratory, using both soap and the new detergents.

"The results have consistently shown that the new detergents produce an excellent suds but in most cases fail to remove the soil from the fabric as completely as does soap. Cleansing power is one of the requisites of a soap or similar material, therefore these new soap substitutes in their present form are not satisfactory, and are not a substitute for soap for general home laundering, even with 'hard' water."

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Treating Unfinished Soap

Laundry soap made by saponifying stock consisting partly or wholly of rosin, and cut into bars or slabs, is moistened with dilute glycerine solution by spraying this on the soap, after which it is allowed to dry. The product treated in this way can be kept in its original condition until it is stamped. S. Kubota, to Nippon Yusi K. K. Japanese Patent No. 132,-158.

PRODUCTS AND PROCESSES

Detergent from Wool Fat

Wool grease is reduced with hydrogen at a high pressure, to a fat-like product containing mainly higher alcohols. It is then sulfonated with fuming sulfuric acid or chlorosulfonic acid, with or without an organic solvent, to give a detergent product containing sulfonated higher alcohols and sterols. K. Mugisima. Japanese Patent No. 132,708.

Purification of Soap Stock

Apparatus is described for purifying soap stock containing water and odoriferous substances. The soap stock is heated to a temperature sufficiently high to break down the odoriferous substances and vaporize water and other vaporizable materials. Benjamin Clayton, to Refining, Inc. U. S. Patent No. 2,230,196.

Synthetic Fatty Acids

Fatty acid mixtures which are colorless and possess the natural odor of fatty acids are obtained by oxidizing, in the liquid state, nonaromatic hydrocarbons such as those of crude scale wax, with oxygen-containing gases, at temperatures of about 90-125° C. The crude oxidation product is saponified and the saponified matter decomposed. The resulting fatty acid mixture is purified by dissolving in an inert solvent and treatment with a small amount of concentrated sulfuric acid. Hans Beller, to Jasco Inc. U. S. Patent No. 2,230,582.

Hydrocarbon-Fat Detergent

Compounds useful as detergents are prepared by causing a sulfite such as sodium sulfite to react with a *beta*-methyl glycerol monochlorohydrin, or a mixture of its isomers. A salt of dihydroxy-methyl propane sulfonic acid is formed, and condensed with a fatty acid such as coconut-oil fatty acid. The chlorohydrin may be derived from isobutylene, which in turn may come from petroleum. The final product may be purified by crystallization from alcohol. Colgate-Palmolive-Peet Co. British Patent No. 514,053.

Continuous Soap Manufacture

Apparatus is described for a continuous process of making soap and glycerin in which a mixture of fat and alkali is heated to a temperature above the melting point of the resulting soap. The mixture is next sprayed into a moving atmosphere of steam entirely free from air and superheated to a temperature above the melting point of the resulting anhydrous soap. The anhydrous soap, still in spray form, is carried to a cooler atmosphere of steam such as to solidify the sprayed soap particles, and conduct off the volatile and non-volatile products liberated and formed by the saponification reaction. Henry W. F. Lorenz. U. S. Patent No. 2,232,544.

Accelerating Saponification

Soluble protein and colloidal mucilage in the waste liquor from cooked beans are used as emulsifying agent for soap stock to hasten saponification. K. Nakamura and M. Tanizaki. Japanese Patent No. 131,867.

Dispersing Agents

A mixture of tertiary alkylolamine, fatty-acid esters is obtained by heating together commercial triethanolamine, coconut oil, and glycerine for about two hours at 150-180° C. The products are dispersing and emulsifying agents. M. De Groote, B. Keiser and C. M. Blair, Jr. to Petrolite Corp., Ltd. U. S. Patent No. 2,228,986.

Sulfonated Castor Oil Soap

When castor oil is sulfonated, and neutralized with alkali, a mixture of alkali salts of sulfonated castor oil, fatty acids of castor oil, and sulfonated fatty acids of castor oil, is obtained. By treatment of this with sodium chloride or sodium sulfate solution, the alkali salt of sulfonated castor oil is separated from the other constituents. T. Maruyama. Japanese Patent No. 132,621.

Emulsifying Agents

Mono- and di-ricinoleic acid esters of triethanolamine are formed by the partial esterification of triethanolamine by heating with castor oil. These may be converted into salts with acetic or other acids. The compounds are stable dispersing and emulsifying agents suitable for use in acid solution. M. De Groote, B. Keiser and C. M. Blair, Jr., to Petrolite Corp., Ltd. U. S. Patent No. 2,228,985.

Industrial Detergent

To colloidal clay such as bentonite, sodium silicate and zeolite are added to give an industrial detergent. M. Sugita. Japanese Patent No. 133,-165.

Sulfonated Wetting Agent

A mixture of dehydrogenated and hydrogenated rosin is treated with concentrated sulfuric acid under conditions which promote sulfonation. The sulfonic acid formed is removed by aqueous extraction, leaving a crude, noncrystalline, brownish, insoluble product. The sulfonated material is suitable for use as a wetting agent. T. Hasselstrom, to G. and A. Laboratories. U. S. Patent No. 2,230,-035.

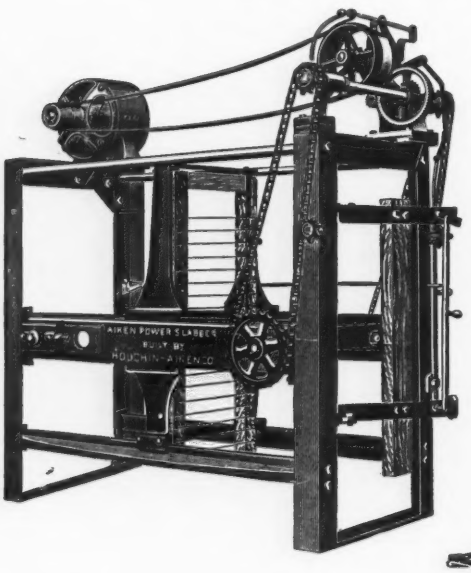
Continuous Oil Deodorization

An apparatus for continuous deodorization of vegetable oils consists of several treating chambers in at least one vacuum heater, and is provided with circulation pumps, fluid heating units, as well as admixing and spraying devices to repeat the circulation, heating and spraying of the oil under a high vacuum. This provides for oil additions which can be mixed in, in regulated amounts. Heinrich Jenny. Swiss Patent No. 207,514.

TWO HOUCHIN CUTTING MACHINES

PREFERRED BY LEADING SOAP MANUFACTURERS

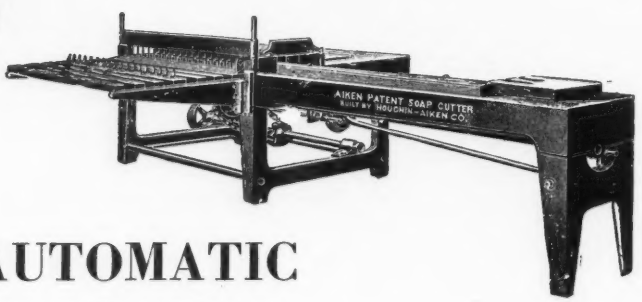
Installed together these two soap machines comprise a complete cutting outfit.



HOUCHIN AUTOMATIC POWER SLABBER

slabs the soap, ejects the slabbed frame and returns head to slabbing position to receive the next frame.

Every part of this machine is constructed of iron or steel, and is arranged for either belt or individual motor drive.



THE HOUCHIN AUTOMATIC POWER CUTTING TABLE

will cut soap for oblong, oval or octagon cakes. Heads containing the cutting wires are easily removed when it is desired to change the size or shape of the cakes. Capacity 60 to 100 frames of soap per day.

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•

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402 Bowen Building, Washington, D. C.

Complete copies of any patents or trade-mark registration reported below may be obtained by sending 25c for each copy desired to Lancaster, Allwine and Rommel. Any inquiries relating to Patent or Trade-Mark Law will also be freely answered by these attorneys.

No. 2,241,790, Cleansing Composition, patented May 13, 1941 by Ernest Wayne Rembert, Plainfield, N. J., assignor to Johns-Manville Corp., New York. An aqueous acid cleansing composition for cementitious articles containing calcareous materials consisting essentially of an intimate mixture of water, an acid having an ionization substantially equal to the ionization of acetic acid at equal concentrations and reactive with the calcareous materials of the article, an alkylated naphthalene sulphonic acid as a wetting agent, an alkali metal salt of sulphonated abietine as a foaming agent, an alkali metal salt of a sulphate of a higher normal alcohol as a flotation agent, the said agents being adapted to preserve their wetting, foaming and flotation properties, respectively, in the presence of the acid.

No. 2,242,175, Process of Separating Soap Stock, patented May 13, 1941 by Benjamin Clayton, Houston, Tex., and Benjamin H. Thurman, Bronxville, N. Y., assignors to Refining, Inc., Reno, Nev. In the process of continuously separating soap stock from alkali treated glycerine oils, which includes, delivering a mixture of said soap stock and glyceride oil to a rapidly rotating centrifugal bowl in which the soap stock collects adjacent the outer wall of the bowl prior to being discharged therefrom and constituents of the soap stock tend to adhere to said wall of the bowl, and separately discharging said soap stock from said bowl, the improvement which comprises, incorporating an anti-sticking agent with at least said soap stock adjacent the wall of said bowl to prevent said constituents from adhering to said wall.

No. 2,242,289, Method of Preparation of a Soap, patented May 20, 1941 by William W. De Laney, Marshallton, Del., assignor to Hercules Powder Co., Wilmington. A method of preparing soap solution which comprises dispersing in water a gasoline-insoluble pine wood resin, produced by extracting resinous wood with coal tar hydrocarbon, removing said hydrocarbon by evaporation, extracting the residue with a petroleum hydrocarbon and recovering a gasoline-insoluble resin, carrying out said dispersion in water with about 10 to about 60 per cent solids concentration, and saponifying at room temperature with an aqueous alkali metal hydroxide solution of about 20 to about 50 per cent concentration to give a substantially neutral soap.

No. 2,242,315, Cleansing and Disinfecting Process, patented May 20, 1941 by James Douglas MacMahon, Niagara Falls, N. Y., assignor to Mathieson Alkali Works, New York. In a process involving the solution of a dry solid mixture of calcium hypochlorite and an alkali metal metaphosphate, present in an amount sufficent to render the mixture soluble in an aqueous solution of the class consisting of soap solutions, solutions of alkaline detergents and hard waters, in an aqueous medium, the improvement which comprises intimately admixing with the said solid mixture prior to its solution a proportion of sodium chloride ranging from about 15 per cent to 35 per cent by weight of the mixture, and adding the resulting mixture to the aqueous medium, whereby the tendency to form sticky difficultly soluble agglomerates is minimized.

No. 2,243,207, Insecticidal Composition, patented May 27, 1941 by Edward Harvill, Yonkers, N. Y., assignor to Boyce Thompson Institute for Plant Research, Inc., New York. An insecticidal composition containing pyrethrum and ortho-cyclohexyl phenol.

No. 2,243,254, Horticultural Emulsion Spray Compound, patented May 27, 1941 by Frank F. Lindstaedt, Oakland, Calif. An emulsifier agent for use with a hydrocarbon spray oil and water to provide a quick breaking spray emulsion comprising, a sulphonated naphthenic acid and a preponderance of a free naphthenic acid.

An emulsible oil for use with water to provide a quick breaking spray emulsion comprising in combination, petroleum oil, a sulphonated naphthenic acid, and a preponderance of a free naphthenic acid.

No. 2,243,477, Insecticidal Process, patented May 27, 1941 by William F. Hester, Drexel Hill, Pa., assignor to Rohm & Haas Co., Philadelphia, Pa. The process of controlling infestations of red spiders on plants which comprises applying to the infested plants a spray containing benzyl sulfide.

No. 2,243,479, Insecticide, patented May 27, 1941 by William F. Hester, Drexel Hill, Pa., assignor to Rohm & Haas Co., Philadelphia. An agricultural insecticidal composition adapted for use on living plants comprising a compound from the group consisting of phenyl benzyl ether, phenyl benzyl ethers having an alkyl substituent on the phenyl group, and phenyl benzyl ethers having an aromatically bound nitro group, the compound having at least one halogen substituent of a relative weight above 30 attached to an aromatic ring.

No. 2,243,544, Moth-proofing Agent, patented May 27, 1941 by William P. ter Horst, Packanack Lake, N. J., assignor to United States Rubber Co., New York. As an improved moth-proofing agent, a zinc soap of cocoanut oil combined with an amine selected from the class consisting of morpholine, monobenzylamine, pyridine, ethylene diamine, piperidine, monocyclohexylamine, monoethanolamine, diethanolamine, triethanolamine, triamylamine.

No. 2,242,187, Process of Making Soap, patented May 13, 1941 by Benjamin H. Thurman, Bronxville, N. Y., assignor to Refining, Inc., Reno, Nev. The process of producing soap and recovering glycerin, which comprises, mixing substantially anhydrous powdered alkali with a glyceride oil substantially free of uncombined fatty acids, heating a flowing stream of the mixture to a temperature at least as high as the melting point of the alkali and above the melting point of the soap when anhydrous to produce soap and liberate glycerin, and thereafter delivering the stream into a vapor separating zone and separating the glycerin in substantially vapor form from the soap to produce substantially anhydrous molten soap.

Credit Men Name Nippert

G. H. Nippert of Procter & Gamble Distributing Co., Chicago, has been elected first vice-president of the Chicago Association of Credit Men.

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826—Lubrication

A folder just published by Sun Oil Co., Philadelphia, entitled "P-Q (Production Quota) Your Key to Increased Production," stresses the importance of the added man-hours and machine-hours that are obtainable through the use of more efficient petroleum products. It points out how the output of present production equipment can often be substantially increased by modern petroleum products and engineering services.

827—Filling Machinery

Karl Keifer Machine Co., Cincinnati, has just brought out a bulletin on the packaging of viscous products in which four different types of "Vari-Visco" packaging machines are described and illustrated. Features claimed for the machines include simple regulation of quantity delivered, adaptability to containers as small as ⅛ oz. and as large as a gallon, automatic safety stops to avoid breakage, automatic container lift for "from bottom up" fill to reduce air bubbles and foaming, temperature controls for products which congeal quickly and pumps with provision for rapid cleaning.

828—Perfume Materials

An address by A. L. van Ameringen before the Toilet Goods Association, New York, June 11, 1941, entitled "The Jig Saw Puzzle of Perfume Materials" has been reprinted and copies are available through van Ameringen-Haebler, Inc., New York, or by addressing *Soap and Sanitary Chemicals*. Price movements of important perfuming materials over the past year are reviewed and problems of supply and replacement considered.

Increasing Hydroxyl Value

Addition of three grams of zinc to 100 grams of sperm-head oil and kurokozame oil, plus 45 and 18 grams of glycerine, respectively, accelerated the ester interchange reaction and resulted in an increase in hydroxyl value from 15.3 to 119.5 in the case of the sperm-head oil and an increase from 21.7 to 116.2 for the kurokozame oil. By dissolving one of these oils in 85 and 95 per cent alcohol and filtering, then examining the insoluble and soluble portions it was found that the former consisted mainly of triglycerides and unchanged esters, while the latter contained mono- and di-glycerides and free higher alcohols. It is possible by this procedure to separate these oils into an oil of large hydroxyl value and one of no hydroxyl value. S. Kawai. *J. Soc. Chem. Ind.*, Japan **43**, Suppl. binding 427.

Int. Agricultural To Chicago

International Agricultural Corporation has leased an entire floor of Chicago's Civic Opera Building and planned to move its national headquarters there from New York this month. At the same time plans were announced for enlarging the company's plant at Chicago Heights, Ill., where phosphates, potash, magnesium and potassium chemicals and other products are made. Moving also to Chicago are three of International's subsidiaries, Phosphate Recovery Corp., Union Potash & Chemical Co., and Kyanite Products Corp.

Stop Fictitious Prices

The Federal Trade Commission recently ordered four New York companies to cease and desist from price misrepresentations in the sale of shaving creams, tooth pastes and other toiletries. The companies named in the order were Rex Merchandising Corp. of America, Crown Laboratories, Inc., Sheray, Inc., and Wilshire Sales Corp. According to Commission findings, the companies, acting in cooperation, sell their shaving creams and dentifrices in tubes and cartons marked with suggested retail selling prices of from 25 cents to $1.00 a unit package, while customary prices obtained for such products are actually from 10 cents to 29 cents. Among the trade names under which the products in question have been sold are: "D. D. S.," "Sheray," "Royal Blue," "Dr. Sachs," "Tally Ho," 'Scientific," "Paramount," "Royal Crown" and "Her Majesty."

C-P-P Names Wheelock Agency

Ward Wheelock Co., of Philadelphia and New York, was recently appointed by Colgate-Palmolive-Peet Co., Jersey City, to handle the advertising of its new product, "Vel," a soapless detergent for household use. Ward Wheelock agency also handles "Palmolive" soap advertising for C-P-P.

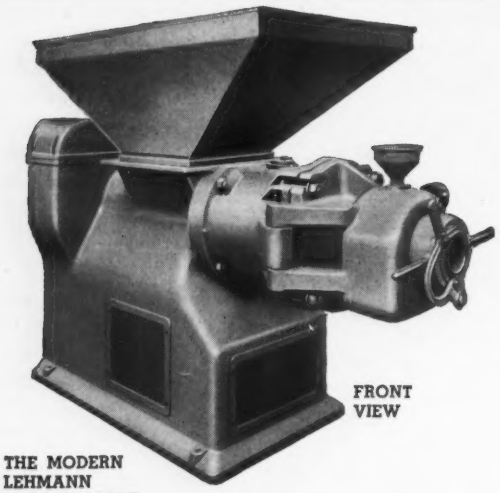
Blackmer Adds New Salesmen

The following new representatives have just been added to its sales staff by Blackmer Pump Co., Grand Rapids, Mich. A. E. Woollam and C. F. Harper, Kalamazoo, Mich., John B. Foley, covering part of New York state, W. A. Duncan, Atlanta, Ga., Henry G. Carter, Tampa, Fla., Paul Brenner, Youngstown, Ohio, and J. H. Sprenger, Memphis, Tenn.

"Quadrafos" Wins Award

Rumford Chemical Works, Rumford, R. I., has just been awarded the citation annually given by the Engineering Societies of New England in recognition of the development of sodium tetraphosphate, marketed under the name "Quadrafos," as a product which opens "new and desirable applications and so extends employment possibilities.

HERE'S THE KIND OF PLODDER *YOU* WOULD BUILD



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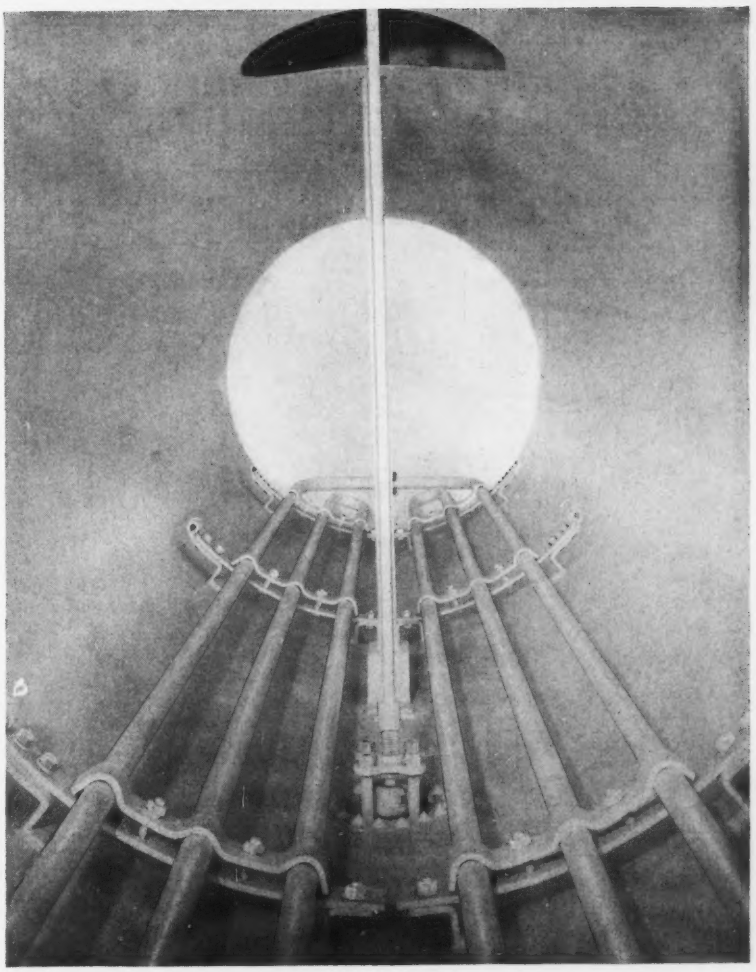
Progress in Caustic Soda

(*from Page* 30)

its third year, which is a testimonial to the skill of the alkali manufacturers consummating the development. As might be expected, other producers soon followed along and more and more consumers left their seats on the sidelines and joined the movement to the use of more concentrated liquor with its resultant economic advantages. It is now possible to obtain 73 per cent liquid caustic at as high or higher purity than any other type on the market with no ensuing handling difficulties.

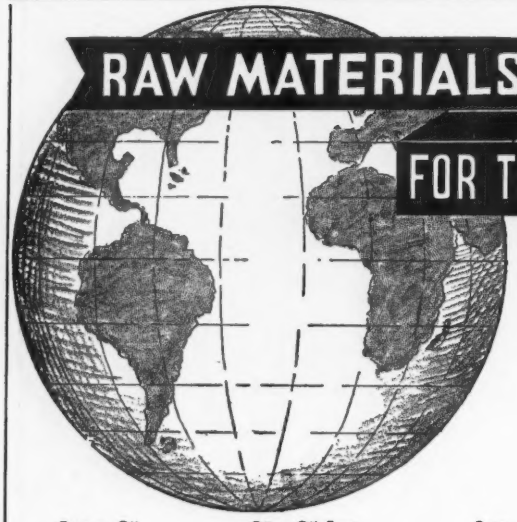
The first step toward bringing about this change was the successful manufacture of a high-quality 73 per cent liquid caustic soda. This meant going through the purification processes normally done at 50 per cent strength, where liquor handles easily, at the higher concentration. This obstacle was quickly surmounted.

The second step was the development of a tank car that would carry the strong liquor to destination in liquid form so as to eliminate the long thawing times, and a lining for the tank car that would protect the quality of the liquor during transit. All types of linings and protective coatings then on the market were tried without success. Even a nickel-lined tank car under ordinary conditions was found unsatisfactory. It finally became necessary to develop new type linings, which have proved economical and efficient. There were many problems in connection with the special tank car. The usual type of insulated car was not entirely satisfactory. Special permission had to be obtained to construct all-welded tanks, which were covered with special insulation and lined with the new material by an especially developed procedure. These cars became known in tank car circles as the "Columbia Car." They were equipped with all the latest modern devices for convenience and safety and were far superior to the old type unit. In recently constructed cars, insulation has been as thick as eight inches, but a four- to six-inch lining seems most satisfactory and has stood the test of time. There have also been heavily insulated cars constructed without coils, but experience indicates that it is better to have coils in the cars since they do no harm and might in an emergency be advantageous. These cars will deliver 73 per cent liquid caustic in both summer and winter without metallic contamination in transit and will arrive at destination with their contents still in liquid form with no thawing necessary. Incidentally, they can handle both 50 per cent and 73 per cent liquid caustic soda with equal satisfaction.



Special coating of tank car interior withstands concentrations of liquid caustic up to 73% at high temperatures. Steam coils insure liquidity of contents. Outlet valve in foreground.

THE third step was to develop a handling technique at the consumer's plant which would be simple, rapid, and economical. By this time the consumer could receive 50 per cent liquid caustic soda in insulated tank cars, hook up the car to a pipe line on arrival, pump the car out without any difficulty, obtaining 50 per cent liquid caustic in his storage tank. Little or no supervision of the operation was necessary. It was desirable to approximate these same conditions with the 73 per cent product. This was accomplished by dilution to 50 per cent during unloading, and cooling to normal storage temperatures on the way to the storage tank. Actually this is a very simple procedure. Dilution to 50 per cent can be acomplished by the use of two Yale & Towne Tri-Rotor pumps, mounted on the same shaft, placed close to the tank car. These are set to mix the 73 per cent liquid caustic



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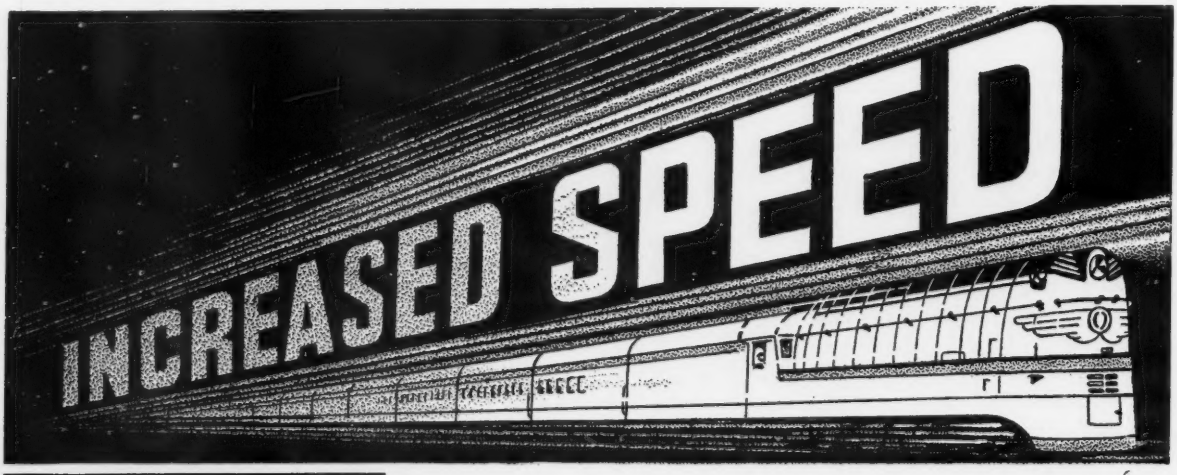

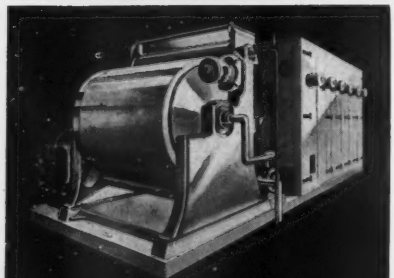

In producing flakes for granulated soaps, toilet cakes or packaging, high speed output can often be an item of great saving. With the New Proctor Flake Soap System, from the hot liquid soap in the kettle or crutcher to the dried flakes requires only 6 to 14 minutes and capacities may be obtained from 750 to 6000 lbs. per hour, according to flake thickness, character of soap, etc. At this stepped-up production, quicker deliveries are assured and there are tremendous savings in floor space and equipment. Complete details are contained in a new 16-page illustrated catalog, that is yours for the asking.

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NEW PROCTOR *Flake Soap* SYSTEM

and water, against a varying head, to approximately 50 per cent right in the unloading line. Once set, these pumps require little supervision and accomplish the dilution within plus or minus half of one per cent.

The cooling problem was also simple. Liquid caustic soda of 73 per cent had to be unloaded at temperatures around 180° F. to get satisfactory performance. Diluting water varies all the way from 40° F. in the winter time to as high as 90° F. in summer. A rather high heat of dilution results from the mixing at 50 per cent so that frequently the 50 per cent liquor ready for storage might reach 250° F. or higher. At this temperature, 50 per cent liquid caustic soda is somewhat corrosive towards iron and must be dropped immediately to below 150° F. for satisfactory operation and maintenance of quality. This is done by running the hot 50 per cent liquor immediately through a simple inexpensive all-iron shell and tube cooler, counter-current flow type, where the exit temperature is usually between 100° and 150° F., depending upon what is desired. Below 150° F., 50 per cent liquid caustic soda is relatively inactive toward iron under normal conditions. The 50 per cent liquor then runs to the storage tank as usual. No new operating problem in the plant itself was created. The iron pick-up across the unloading set-up is between three and five parts per million, and sometimes less, with good operation, which is generally satisfactory. The expense of the handling installation is very small in comparison to the savings possible and the cooling water requirements usually of no consequence. The procedure is simple and effective and is now in operation in a great many plants.

There have been some variations to this unloading and diluting procedure, such as the use of all-nickel equipment (which, of course, is very expensive) and the use of a different type of cooler, more expensive, but more economical on water, but in general most installations use the method already described. Tank cars of ten thousand gallons cacapity carrying 73 per cent liquid caustic deliver 50 tons of actual caustic soda as against 30 tons at 50 per cent strength and can be unloaded in three to four hours if necessary.

It is not difficult to see what this latest development has meant to consumers. Liquid caustic soda at 73 per cent with all its economic advantages is now available to all users of high-grade caustic and has graduated from being a product available only to those where quality is not important and the ease of handling not vital. Its use continues to spread.

COINCIDENTALLY with the advances made by the alkali industry in the shipping and handling of caustic soda, there have been decided advances in the quality of caustic soda produced over this same period of years. In general, caustic soda is made by two methods, the ammonia soda process and the electrolytic process. In the ammonia soda process, soda ash and lime are brought together to form a weak solution of caustic soda, which is subsequently concentrated and purified. In the electrolytic process, an electric current is passed through salt brine in a suitable cell, resulting in the formation of a weak solution of caustic soda, chlorine gas, and by-product hydrogen. The production of electrolytic caustic soda is dependent upon the production of chlorine and vice versa. In recent years, the use of chlorine has increased very rapidly with a consequent increase in the amount of electrolytic caustic soda available. The amount of electrolytic caustic soda now produced is in excess of 50 per cent of the total distributed and is definitely on the increase as more and more chlorine is needed for industry.

For a number of years, electrolytic caustic soda was considered inferior in quality to that produced by the ammonia soda process, by reason of its high salt content and the presence of other impurities which were not removed. It found its outlet to that class of industry not requiring a high-quality product and there seemed to be no reason for further refinement. This meant that in certain industries, the doors were closed to electrolytic caustic soda, with the exception of that produced by the mercury cell process which yields a high-quality product. As the production of electrolytic caustic soda expanded, however, it became necessary to improve its quality in order to remove all obstacles in the way of its wider use. We have processes now in use having diaphragm cell electrolytic caustic as a raw material for refinement to quality equal to the best obtainable. For example, there is the recrystallization process, the so-called sulfate process, dialysis, and the ammonia process. These convert diaphragm cell caustic to the equal of mercury cell caustic in quality, depending upon the process used and the manufacturing conditions.

There is, naturally, a divergence of opinion among users of these different processes as to which is most efficient, most economical, and which yields the best quality caustic. These developments in the improvement of the quality of electrolytic caustic render it a better product than the ordinary ammonia soda caustic except for the fact that new processes have also been developed to bring the quality of ammonia soda caustic up to approach the new standard. As matters stand today, the consumer of caustic can choose between refined diaphragm cell caustic, refined ammonia soda caustic, and mercury cell caustic, when requiring the highest quality; or he can purchase a run-of-mine electrolytic or ammonia soda caustic where quality is not the deciding factor.

These developments come to a head along with new advances in soap manufacture, including a wide vogue in white soaps. Some of the newer developments in soap production call for raw materials that must be of a high state of purity because any impurities in them carry through to the finished soap. Ten years ago this would have presented a problem to the soap producer with respect to caustic soda, but today the caustic desired is available at lower prices than the poorer grades of 20 years ago.

There will be further new developments in the techniques of man-

ufacturing and handling alkalies as time goes on, with consequent benefits to users. This will be the result of further research and development in an industry conscious of its responsibility in this direction, and conscious of what research has accomplished over the past 20 years.

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Soap Solution Hydrolysis

According to the new theory of the hydrolysis of dilute soap solutions, hydrolysis proceeds stepwise. This is confirmed by studies of solutions of sodium laurate from 0.001 Normal to 0.18 Normal, in which the hydroxyl-ion activity was determined at 20° C. Below a concentration of 0.006 Normal, sodium laurate behaves like a simple univalent electrolyte. At about 0.0075 Normal, hydrolysis increases and association occurs with the formation of acid soap, 1 molecule of neutral soap combining with 1 molecule of lauric acid. From 0.021-0.022 Normal, the hydrolysis curve becomes steeper; a fourfold fatty acid ion is formed having the composition of 3 molecules of sodium laurate combined with 1 molecule of lauric acid. From 0.03 Normal, hydrolysis increases more rapidly with combination of 6 laurate ions. From 0.035-0.037 Normal, hydrolysis proceeds more slowly, and becomes constant at about 0.05-0.06 Normal. This corresponds to maximum association with precipitation of lauric acid. P. Ekwall and L. G. Lindblad. *Kolloid-Zeitschrift* **94,** 42-57 (1941).

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Processing Oil Seeds

Cottonseed-oil can be recovered most economically under present labor conditions by the use of a cooker-expeller in place of hydraulic presses. Flow sheets are given of the process, which involves cleaning, delinting, hulling and separating, crushing in pressure cooker-expellers, treatment of the oil on vibrating screens, and filtering. Solvent extraction gives a maximum yield of oil and facilitates protein recovery. Mechanical processing is equally applicable to other oil seeds and peanuts. J. F. Leahy. *Southern Power and Ind.* **59,** No. 3, 63-9 (1941).

Essential Oil Import Problems

(*from page* 31)

the papers. It is in effect, solidly so. No ships containing merchandise that might be paid for and the funds diverted to the benefit of the Axis is permitted to get through. Many steamship companies will not even accept freight without a British Navicert. This is one of many deterrents that must be accepted in this day. Delays and complications are part of the shipper's day and we might as well make the best of the situation.

Now, as an importer, if you can stand all this and more, there's just one other detail, the detail of financing. The customary procedure of merchants abroad of shipping under terms of draft at sight 30/60/90 days, with documents attached or documents delivered against acceptance is no longer the rule but the exception. Today either cash against documents on first presentation, or more often, letter of credit abroad or payment abroad is demanded before shipment. For all these complications, with the exception of some commodities, the goods are coming through to supply American industry. Fortunately, too, our ingenuity is bringing forth many an excellent substitute for hard to get, price-rocketing essential oils. With the aid of our agricultural experts and through judicious planting many oils are being extracted commercially in the United States. Essential oil suppliers continue their studies for the development of new sources of supply. They are seeking to make this country more nearly self-sufficient, or to develop sources in friendly countries, so that future supplies will be assured.

—— ♦ ——

Metals in the Fat Industry

The use of heavy metals in the oil and fat industry is limited by the corrosive action of fatty acids and by color formation. While aluminum is stable toward oils and fats, aluminum vats used for boiling linseed oil are attacked. Pure aluminum is readily attacked by boiling oleic, stearic and palmitic acids. A eutectic aluminum-silicon alloy is not attacked by boiling linseed oil or fatty acids. Properties of hard alloy of this kind, at 20° C. are: Tensile strength, 18-25 kg./sq. mm., yield point, 15-20 kg./sq. mm., expansion 2-5 per cent, Brinell hardness, 60-80 kg./sq. mm. Otto Stockmar. *Fette und Seifen* **47,** 307-9.

—— ♦ ——

Phenol in Soap

To determine phenol in soap, dissolve 1 gram of finely shaved soap sample in hot water, precipitate the soap with 10 cc. of a 10 per cent solution of calcium chloride, filter and wash the precipitate. To the filtrate add 50 cc. of bromate-bromide solution, shake, add 5 cc. of concentrated hydrochloric acid, shake, and let stand for 15 minutes. Add 2 grams of potassium iodine and after complete solution, titrate with 0.1 Normal sodium thiosulfate solution. At the same time carry out a blank test with distilled water plus 50 cc. of bromate-bromide solution plus 5 cc. of concentrated hydrochloric acid. Phenol is calculated by difference:

$$\frac{(b - a)\ K \times 0.1567}{P}$$

where b is the volume of 0.1 Normal thiosulfate solution in cc. used in the titration with distilled water, a is the volume used for titration of the soap sample, K is the correction for the standard of the thiosulfate solution, and P is the weight of soap sample in grams. The method is simple and rapid. S. Semjenow and M. Zaliopo. Olunde *Fett-Ind.* (russ.) **16,** No. 3, 20-21; through *Fette und Seifen* **48,** 38 (1941).

—— ♦ ——

Substitute Sulfonated Oil

The present scarcity of olive oil and teaseed oil for use in sulfonated form for textile purposes has brought the announcement by American Cyanamid & Chemical Corp. of a new textile oil. This is offered as a substitute for sulfonated olive and sulfonated teaseed oil. At moderately warm temperatures, it is a clear amber colored oil. At cooler temperatures it has a tendency to solidify, so must be stored in a warm room before use.

SANITARY PRODUCTS SECTION

Insecticides • Disinfectants • Moth Products
Floor Products • Polishes • Chemical Specialties

DEMAND "PYRIN" for Your Sprays

6 ... IT GIVES YOU IMPORTANT ADVANTAGES

HIGHER KILL
"PYRIN" gives better control of hard-to-kill insects.

GREATER STABILITY
"PYRIN" stored for periods up to 2 years remains clean, free from sediment, with no decrease in effectiveness.

SAFETY
"PYRIN" used at spraying concentrations is harmless to warm blooded animals. And it does not irritate skin or eyes.

ODOR
"PYRIN" has no disagreeable effect on nasal membranes. Its mild odor is easily masked with a number of perfumes.

TASTE
"PYRIN" has a slight taste similar to Pyrethrum. It gives no evidence of contaminating foodstuffs exposed to the spray.

STAINING
"PYRIN" in practical concentrations does not stain and does not corrode metals.

And with all these advantages "PYRIN" gives you more profits because *less "PYRIN" does more.* It gives you 33% more power than an equal amount of Pyrethrum extract at the same dilution. You can see why "PYRIN" will improve your product and your profits. And "PYRIN" requires no change in your label or manufacturing requirements.

"Pyrin" contains Du Pont IN — 930 (isobutyl undecylenamide) and is manufactured by

JOHN POWELL & CO., INC.
114 East 32nd Street, New York City

MR. LEMONGRASS USER IS ALL SMILES AGAIN

now that MM&R has produced a

SATISFACTORY REPLACEMENT

for Oil Lemongrass Native

*OIL LEMONGRASS SUBSTITUTE #619 MM&R

A Big Economy *Plus* for LEMONGRASS USERS

TO MEET a pressing need for a *satisfactory* replacement for the fast-dwindling supply of Oil Lemongrass and to enable users of this product to maintain their production cost schedules in the face of sky-rocketing prices of the natural product, the M M & R laboratories have produced, *by scientific manufacture,* a substitute which in tests and in actual usage has proved to be the *answer* to the Lemongrass problem.

In odor and characteristics, Oil Lemongrass Substitute No. 619 M M & R, closely approximates genuine Oil Lemongrass Native. It has *tremendous* covering power and is priced well below the normal price of Lemongrass Native. *This low cost* will do much to *balance* rising prices of other ingredients.

★ ★ ★

SEND for a testing sample and prices of Oil Lemongrass Substitute No. 619 M M & R *today.* Tests will prove that it is *ideal* for perfume and odor coverage in insecticides, disinfectants, sprays, polishes, laundry, toilet and liquid soaps.

MAGNUS, MABEE & REYNARD, INC.

QUALITY ESSENTIAL OILS, BALSAMS AROMATIC CHEMICALS, ETC. SINCE 1895

16 DESBROSSES ST. NEW YORK, N. Y.

CHICAGO: 221 NORTH LASALLE STREET LOS ANGELES: 747 WAREHOUSE STREET CANADA: RICHARDSON AGENCIES, LTD., TORONTO

TAR ACIDS

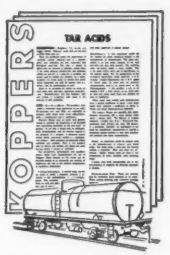
Cresol · Cresylic Acid

TAR ACID OILS

CRESOL—U.S.P. with a very close cut distillation range and light color, for pharmaceutical purposes —Meta-Para Cresol with high meta cresol content —Resin Cresols close cut to wide boiling with guaranteed meta cresol contents.

CRESYLIC ACID—Many distillation ranges appropriate for all established uses—pale color—clean odor—total impurities besides water not exceeding one-half of one per cent.

TAR ACID OILS—Frozen crystal free at O°C.—good emulsion forming properties—low benzophenol content—appropriate for low to high coefficiencies with tar acid contents as required.



Technical data sheets on "Tar Acids" and "Tar Acid Oils" are available on request. Write for your copies.

OTHER KOPPERS PRODUCTS: Shingle Stain Oil . . . Refined Tars . . . Pitch Coke . . . Industrial Coal Tar Pitches . . . Flotation Oils . . . Creosote . . . Removal and Recovery Systems . . . Coal Tar Roofing Materials . . . Waterproofing and Dampproofing Materials . . . Tarmac Road Tar Materials . . . Bituminous-base Paints . . . Coal . . . Coke . . . Fast's Self-aligning Couplings . . . Piston Rings . . . Pressure-treated Lumber.

Send for the Koppers Booklet describing "Chemicals from Coal"

KOPPERS

KOPPERS COMPANY
KOPPERS BUILDING
PITTSBURGH, PA.

DISINFECTANTS
DEODORANTS
INSECTICIDES

•

REFINED NAPHTHALENE

Crushed, Crystals, Powder, Lump, Chips, Flakes. For use in manufacture of deodorizing blocks, moth preventives and other insecticides. Also Naphthalene in Balls, Blocks, Tablets.

COAL TAR DISINFECTANTS
Coefficients 2 to 20, F.D.A. Method

CRESOL AND
CRESYLIC DISINFECTANTS

PINE OIL DISINFECTANTS

PINE OIL DEODORANTS

CRYSTAL AND BLOCK DEODORANTS

LIQUID INSECTICIDES

DEODORIZING BLOCKS

Pressed Naphthalene or Paradichlorobenzene. Various sizes and shapes. Perfumed and plain. Bulk industrial packages, retail packages.

THE WHITE TAR COMPANY
OF NEW JERSEY, INC.
KEARNY, N. J.

PYROCIDE 20 is Tailor-Made for SALES!

For *quick* kill—for *effective* kill against a *wide variety of insects*—for *customer satisfaction* that results in *increased sales*—manufacturers who are building their spray business today are choosing Pyrocide 20.

TESTED QUALITY IS ONE BIG REASON

Pyrocide 20 is guaranteed to contain 2 grams of pyrethrins per 100 cc (Seil method). Reliable, constant laboratory control—*effective testing*—makes this *sure!* Pyrocide 20 is assayed for pyrethrin content three times during manufacture—the third assay is made just before it is sent to you.

TRUE PYRETHRINS ARE ANOTHER

Pyrocide 20 is a *pyrethrum* concentrate. As such it is a proved, accepted insecticide base with known effectiveness. Some pyrethrum substitutes and combinations of pyrethrum and pyrethrum substitutes are not proved. It is significant that the most successful manufacturers depend primarily on pyrethrin content for insect control.

THE PUREST FORM OF PYRETHRINS COMMERCIALLY AVAILABLE

...*and* PYROCIDE 20 is Tailor-Made to Fit YOUR BUSINESS!

You have a choice in degree of refinement that enables you to fit Pyrocide 20 exactly to your problems in producing effective, economical insect sprays.

PYROCIDE 20, DEODORIZED . . . CLARIFIED

Absolute top quality. Free from bad odor. Practically odorless except for the pleasant floral aroma of pyrethrum flowers. Will not stain curtains, wallpaper, etc.

PYROCIDE 20, REGULAR

The original chilled, filtered, standardized pyrethrum concentrate ideal for many insecticide problems. Same pyrethrin content as Pyrocide 20 Deodorized Clarified—at an even lower price.

BOTH ARE PRICED RIGHT

The price of Pyrocide 20 is low—is competitive with pyrethrum substitutes and combinations of pyrethrum and pyrethrum substitutes. As a result Pyrocide 20 is coming into ever-widening use. Write today for full information on your problem and new low prices.

McLAUGHLIN GORMLEY KING COMPANY • Minneapolis, Minnesota

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Phone: Bryant 9-1841

BAKER & GAFFNEY
12 South 12th St., Philadelphia, Pa.
Phone: Walnut 1339

K. LESTER WILSON
600 No. Eutaw St., Baltimore, Md.
Phone: Vernon 4704

REPRESENTATIVES

CHEMICAL SALES CORPORATION
1382 Niagara Street, Buffalo, N. Y.
Phone: Lincoln 5100-01

W. B. LAWSON, INC.
Union Commerce Bldg., Cleveland, Ohio
Phone: Cherry 6232

CHARLES ALBERT SMITH, Ltd.
123 Liberty St., Toronto, Ont., Canada

G. S. ROBINS & COMPANY
126 Chouteau, St. Louis, Mo.
Phone: Main 5155

COMMERCIAL CHEMICALS LIMITED
Vancouver, B. C., Canada
Phone: Trinity 1881

WILLIAM J. HOUGH COMPANY
2445 West Congress Street
Chicago, Ill.; Fort Wayne, Indiana
Phone: Seeley 0505

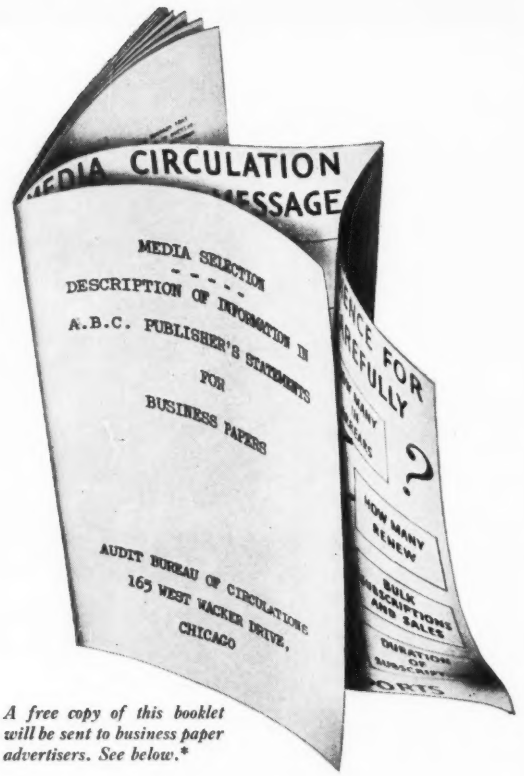
LINDER & COMPANY
296 N. Beacon Street
Boston, Mass.

BARADA & PAGE, INC.
Kansas City, Missouri;
Oklahoma City, Okla.; Tulsa, Okla.;
Dallas, Texas; Houston, Texas;
New Orleans, La.; Wichita, Kansas

PYROCIDE 20

TO Advertisers–

HOW OUR MEMBERSHIP IN THE AUDIT BUREAU OF CIRCULATIONS PROTECTS YOUR ADVERTISING INVESTMENT.



*A free copy of this booklet will be sent to business paper advertisers. See below.**

THE Audit Bureau of Circulations is a cooperative and non-profit association of more than 2000 publishers, advertisers and advertising agencies.

The Bureau has established definite standards for measuring circulation on a quantitative basis for qualitative appraisal. Its reports provide information that advertisers need in order to select the right media. And they give buyers assurance that they get what they pay for.

Skilled auditors make a detailed annual audit of the circulation records of each publisher member. Based on these audits, the Bureau issues A. B. C. reports which tell how much circulation a publication has, where it goes, how it was obtained, how much subscribers paid for it, their occupation and business, and many other facts essential to the wise investment of advertising money.

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*How to make the most of the information in A. B. C. reports for business papers is described in a booklet on media selection which has recently been issued by the Bureau. It outlines in detail the helpful information that will enable you to select the right media and know that you are getting what you pay for. Write today for your free copy of this booklet.

A. B. C. PROTECTS YOUR ADVERTISING

Paid subscriptions, renewals, evidence of reader interest, are among many facts in A. B. C. reports that are definite guides to effective media selection. When you buy space in A. B. C. publications your advertising is safeguarded by audited circulation. Always ask for A. B. C. reports.

SOAP *and Sanitary Chemicals*

254 WEST 31st STREET **NEW YORK**

Member of the Audit Bureau of Circulations ABC *Ask for a copy of our latest A.B.C. report*

A. B. C.=AUDIT BUREAU OF CIRCULATIONS=FACTS AS A MEASURE OF CIRCULATION VALUES

THE STABILITY OF PYRETHRUM

INSECTICIDE manufacturers are faced with the probable necessity of adopting a new type of metal for containers, and naturally are concerned regarding the stability of their sprays under the new conditions of packing. It is regrettable but inevitable that they should immediately have been supplied gratis with a flood of pseudo-scientific generalities deeply colored by self-interest.

We suggest four points for serious consideration and for acceptance if the facts disclosed warrant it.

1. Pyrethrum concentrate and Pyrethrum sprays are far more stable than is implied by some recent propaganda.

2. It is by no means true, as has been implied, that synthetic organic chemicals are *ipso facto* more stable than Pyrethrins. The reverse is equally possible, and proof, not innuendo, is required in each case.

3. Generalities about Pyrethrum are insufficient. The stability of Pyrethrins, as of most other organic substances, is influenced by methods of handling and by the nature and extent of impurities present.

4. D & O PYRETHRUM EXTRACT No. 20 ODORLESS under all conditions of storage and use has a degree of stability unexcelled and probably unequalled by other Pyrethrum concentrates.

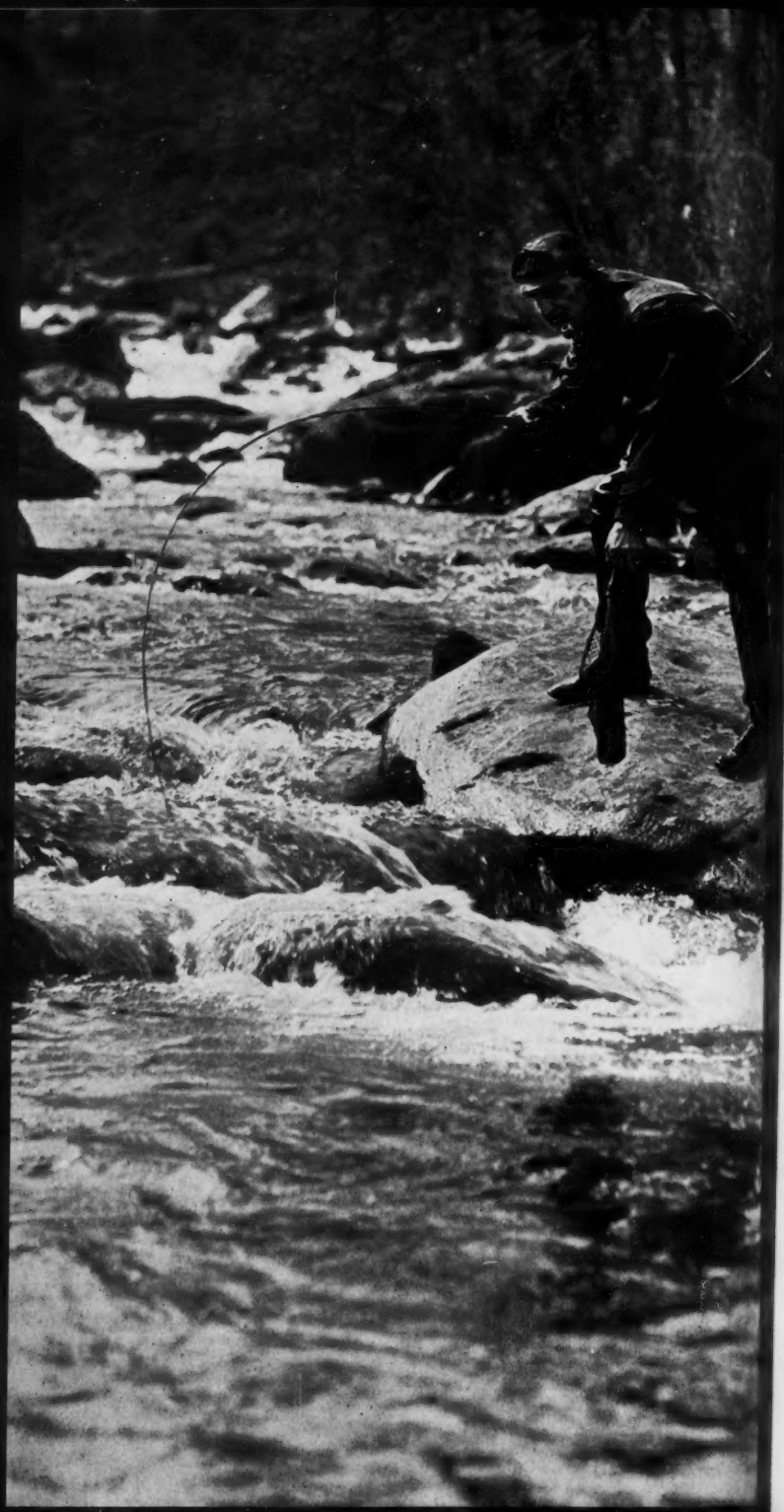
DODGE & OLCOTT COMPANY

180 Varick Street **New York, N. Y.**

BOSTON : CHICAGO : PHILADELPHIA : ST. LOUIS : LOS ANGELES

Plant and Laboratories . . . Bayonne, N. J.

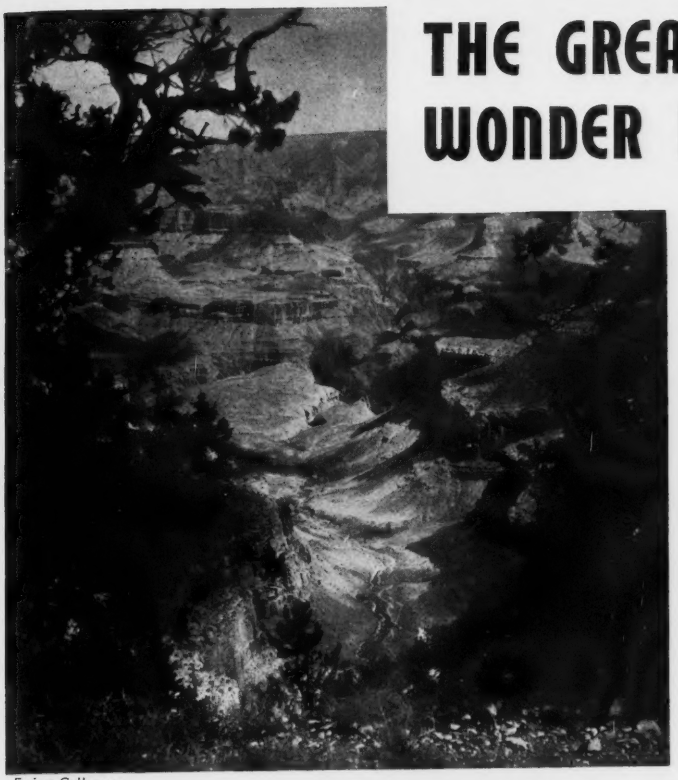
GOOD LUCK



We wish you lots of luck this season and hope your insecticide sales break all records. But if they're not quite up to par remember that odor has a lot to do with sales appeal. The one that's most pleasant to use is the one they'll buy again.

VAN AMERINGEN-HAEBLER, INC.

315 FOURTH AVE. · NEW YORK CITY



Ewing Galloway

THE GREATEST NATURAL WONDER IN THE WORLD

A view of the Grand Canyon, Arizona, from the south rim, whose buttes and temples still continue to be the greatest natural wonder in the world. The formations of the canyon walls lie in orderly horizontal layers, like beds of masonry that seem to have been carved into definite architectural forms. The canyon has a depth varying from 4000 to 6000 feet, so that the Colorado River looks like a thread as it courses through.

PRENTISS CLARIFIED PYRETHRUM EXTRACT #20

"it's a natural"

Natural Pyrethrum Spray, if reasonably priced, is still preferred by the majority over Synthetics. Through educating the growers in countries producing Pyrethrum to improve their methods of growing and collection, the price of Pyrethrum is being steadily reduced and is now 1/3 less than two years ago.

We can now offer Prentiss Clarified Pyrethrum Concentrate No. 20, guaranteed to contain 2.0 grams Pyrethrins per 100 c.c., in 55 gallon drums, at a price competitive with Synthetics. If price has kept you from using Pyrethrum during the past few years, by all means investigate Prentiss Clarified Pyrethrum Concentrate No. 20.

R. J. PRENTISS & CO., INC. · THE WORLD IN BOTANICALS

R. J. PRENTISS & CO.

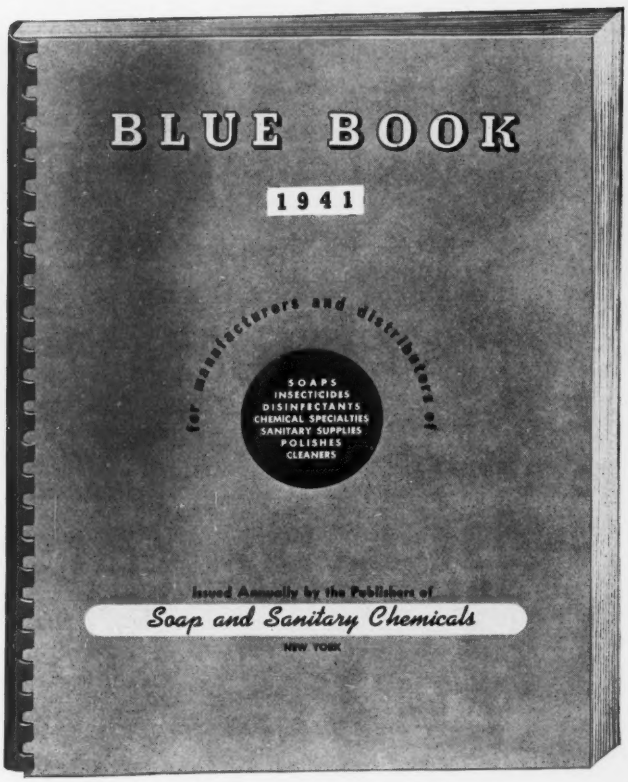
80 JOHN STREET, NEW YORK CITY

The New 1941 BLUE BOOK

is an invaluable reference volume for every soap and sanitary chemical firm, —that will find service every day in the year. Keep your copy readily available for day-to-day use. Familiarize yourself with the wide variety of useful information it contains.

If you have not received a copy of the new BLUE BOOK ensure your getting one at once by entering a subscription to Soap and Sanitary Chemicals *now.*

A check for $3.00 (foreign $4.00)—the price of a yearly subscription—entitles you to a copy of the BLUE BOOK without extra charge.



Contents of the New 1941 BLUE BOOK

Cold Process Soaps—offering suggestions on various aspects of cold process soap manufacture.

Dry Mixing—Commenting on mixers and the mixing of bath salts, para crystals, detergents, sweeping compounds, etc.

Auto and Furniture Polishes—A review of typical formulas.

Soap Perfuming—A review of perfuming principles with detailed comments on suitability of various essential oils, aromatic chemicals, resins, etc.

Insecticide Perfuming—Suggestions for evaluating suitability, masking power, persistence, etc., of insecticide odors.

Floor Cleaning—A study of materials and methods for the maintenance of wood, marble, tile, terrazzo, cork, linoleum, concrete, asphalt and rubber floors.

Label Taboos—What label statements have been tabooed by the Federal Trade Commission for soaps, insecticides, scouring powders, disinfectants, deodorants, cleaning fluids, etc.

Window and Glass Cleaners—A review of the types of products offered, with suggestions on their formulation.

Specifications—A resume of U. S. specifications for soaps, polishes, waxes, cleaners, etc.

Testing Methods—Official methods of N.A.I.D.M. for testing insecticides and disinfectants.

Index To Soap—Composite index to the monthly issues of *Soap and Sanitary Chemicals* for the past five years.

Plus a complete 125-page Buyers Guide Section listing sources of supply for a complete line of raw materials, machinery and equipment bought by manufacturers of soaps and sanitary chemicals.

MAC NAIR-DORLAND COMPANY

254 WEST 31st STREET **NEW YORK, N. Y.**

ONE of the most profitable fields for insecticide and disinfectant is the "large-unit" market that includes hotels, restaurants, factories, schools and hospitals. The skilful way to sell highly critical purchasing agents in this market is to pack your product in these attractive and convenient Anchor Hocking ½ gallon and 1 gallon glass jugs, sealed with handsome, efficient Anchor Improved C.T. or Anchor Molded Caps.

Sealed with either of the above closures your products will reach the user with all their "deadly" qualities intact. Neither you nor the user will be annoyed by leakage, evaporation or loss of strength, so securely and dependably do they effect their seals.

We'll gladly send you samples and detailed information. No obligation, of course.

ANCHOR HOCKING GLASS CAPS

ANCHOR HOCKING GLASS CORPORATION • LANCASTER, OHIO

SALES POWER

FOR DEODORANT BLOCKS AND CRYSTALS!

Felton

COLOROMES

ATTRACTIVE PERFUME AND COLOR COMBINED

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121 N. W. 5th Ave.

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FELTON Quality

FELTON
CHEMICAL COMPANY, INC.

599 JOHNSON AVE. BROOKLYN, N. Y.

Manufacturers of AROMATIC CHEMICALS, NATURAL DERIVATIVES, PERFUME OILS, ARTIFICIAL FLOWER AND FLAVOR OILS.

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New Orleans, La.
Salter Bldg.

San Francisco, Cal.
707 Kohl Blvd.

Montreal, Que., Canada
389 St. Paul St. W.

Toronto, Ont., Canada
218 Front St. W.

A CAN FULL *of new furniture!*

Buying new furniture by the canful becomes a habit with many home-makers once they try Lucas 4-Hour Varnish!

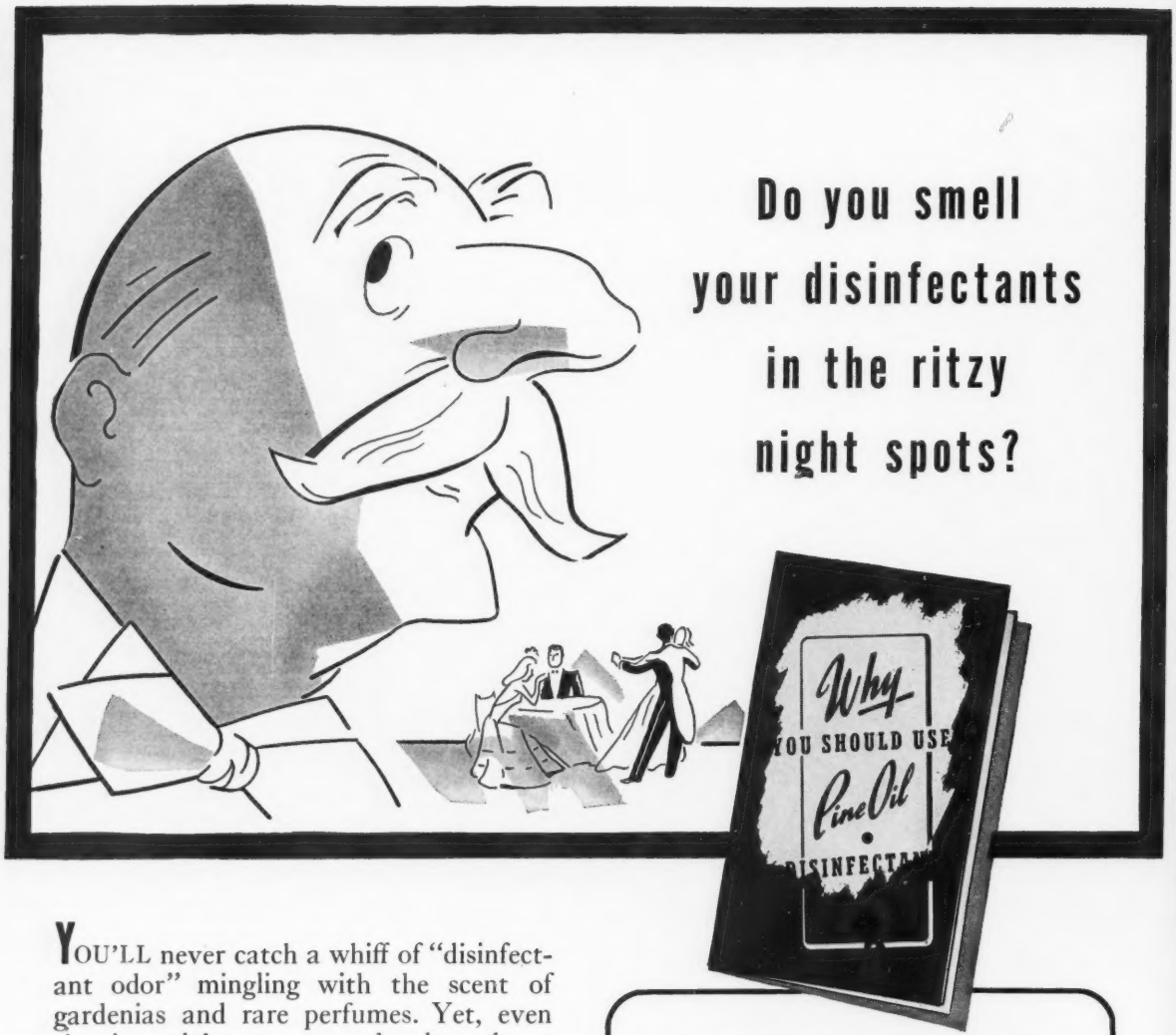
Naturally, a varnish which dries into a hard, protecting finish so quickly needs the fullest possible protection on its way from the manufacturer to the home.

John Lucas & Company, Inc., of Philadelphia, has found Crown Cans (perfectly sealed with Williams KORK-N-SEAL caps) ideal containers for Lucas 4-Hour Varnish . . . assuring its arrival at the scene of the job in the same perfect condition in which it left the factory.

Whatever your product may be, Crown stands ready to work with you and for you to devise and perfect the container which best fits your specific requirements.

CROWN CAN COMPANY, PHILADELPHIA, PA., *Division of Crown Cork and Seal Company,* Baltimore • St. Louis • Houston • Madison • Orlando • Fort Wayne • Nebraska City

INDEPENDENT AND HELPFUL CROWN CAN



YOU'LL never catch a whiff of "disinfectant odor" mingling with the scent of gardenias and rare perfumes. Yet, even the ritzy night spots must be cleaned.

That accounts for the way the public is going for disinfectants with the fresh, clean smell imparted by Yarmor* 302. They're as fragrant as the breeze that blows through the pines. Yet the phenol coefficient is there to do a job.

The booklet illustrated tells the story to consumers. You're welcome to use all or any part of it in preparing your advertising literature for building superintendents, housewives, or dealers. Just write for a copy.

DISINFECTANTS MADE WITH YARMOR 302 PINE OIL ACCORDING TO THE PRESCRIBED DIRECTIONS:

1 Have a clear, sparkling, amber color.

2 Produce a snowy-white emulsion in water.

3 Are free from suspended matter. This denotes uniformity.

4 Are non-toxic to man when handled as a disinfectant.

5 Do not stain when in diluted form.

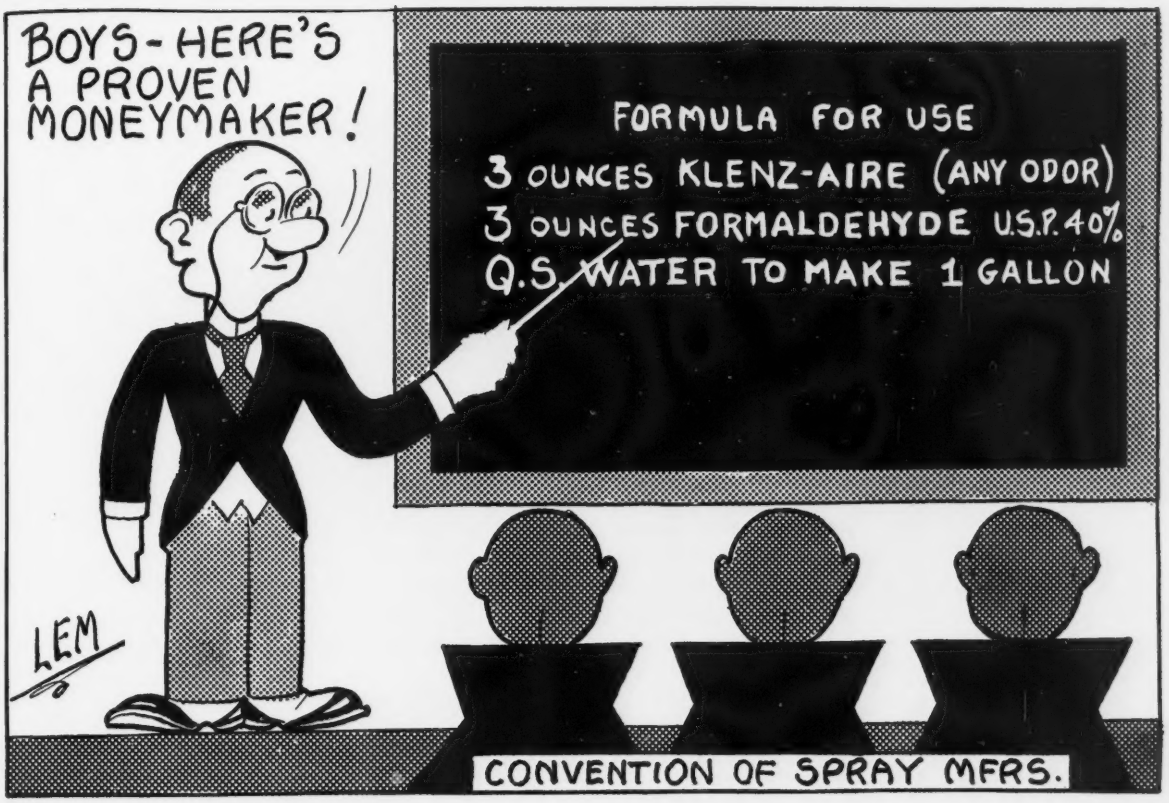
6 Are effective preparation for general disinfection except when necessary to combat pus-forming organisms.

7 Leave a clean, piney odor wherever applied.

*Reg. U. S. Pat. Off.

QQ-87

HERCULES POWDER COMPANY
INCORPORATED


BOYS - HERE'S A PROVEN MONEYMAKER!
FORMULA FOR USE
3 OUNCES KLENZ-AIRE (ANY ODOR)
3 OUNCES FORMALDEHYDE U.S.P. 40%
Q.S. WATER TO MAKE 1 GALLON
LEM
CONVENTION OF SPRAY MFRS.

Klenz-Aire Deodorant Oils

Antiseptic	Honeysuckle	Oriental
Bouquet	Jasmin	Pine Needle
Cedar	Lavender	Rose
Clover	Lilac	Sandalwood
Eucalyptus	Mint	Trefle
Gardenia	New Mown Hay	Wisteria

Formula For Use

3 ounces Klenz-Aire Deodorant Oil
3 ounces Formaldehyde U.S.P. 40%
Balance—water to make one gallon

This formula makes a finished deodorant spray in milky emulsion form which may be colored any shade to make it more attractive.

There is a great field for a deodorant of this type. It kills all tobacco, cooking, theatre and tavern odors. It purifies the air of any public place where crowds assemble. A little of this finished spray solution used by means of a spray directly into public urinals, will have an instant and efficient deodorizing effect.

Klenz-Aire Deodorant Oils will absolutely accomplish what we claim for them. Experiment yourself and be convinced.

Order a Trial Pound

1 lb. lots ..... $3.00 lb.
5 lb. lots ..... 2.85 lb.
25 lb. lots ..... 2.75 lb.
F.O.B. New York

AROMATIC PRODUCTS, Inc.

15 East 30th Street, New York — Factory: Springdale, Conn.

ATLANTA • DALLAS • MEMPHIS • PITTSBURGH • CHICAGO

NO-ROMA

The odorless disinfectant

3 Strengths

COEF. 2 COEF. 5 COEF. 10

Make snow-white emulsions in water—with absolutely no trace of odor! Introduce this new germicide to your trade—it's the newest disinfectant in the field—write us for free samples and complete information.

BAIRD & McGUIRE, INC., HOLBROOK, MASS.

H-D-10

New Hospital Disinfectant

2 Strengths

COEF. 5 AND COEF. 10

Forms clear solutions in water at any dilution. Mild, fragrant odor. Introduce H-D-10 to your hospital, institution and sanitarium buyers. Write for free samples and complete information.

BAIRD & McGUIRE, INC., ST. LOUIS, MO.

SANITARY PRODUCTS

A SECTION OF SOAP

Official Publication, Nat'l. Assn. of Insecticide & Disinfectant Manufacturers

As time goes on, stronger and ever stronger insecticides may be needed to kill insects of increasing resistance. Efforts to control insect life may lead to the development of more resistant strains of bugs, those which survive the effects of insecticides living on to breed a race of super-insects. In short, the efforts of agriculturists and others to control insects may be the very means of defeating their purpose. This is the theory of Prof. Harry S. Smith, prominent California entomologist.

We harken back several years to a publicity hoax which made many of our leading newspapers. This foolishment involved a newly developed insect, a bug as large as a sparrow and as vicious as an eagle, a bug which daily ate several times its own weight in other insects, a bug whose potentialities were such that those "entomologists" who had developed it, trembled at the very thought of turning it loose,—and who said that in one or two short years, it would rid the world of all harmful insects,—and also the insecticide industry. Its inventors failed to mention what it would eat or do after this point were reached.

In the light of Prof. Smith's views, the idea behind this hoax may not be as utterly ridiculous as it sounds. Maybe the day will come some years hence when the growing of certain beetles, mantes, dragon flies, and other predatory insects will become an adjunct of the insecticide industry. There is not too much money today in making stuff to kill bugs. Maybe there might be more money in growing bugs to kill bugs. It's an idea anyway!

Remembering the part which sanitation and sanitary materials played in the 1914-18 world war period, and also calling attention to their vital importance in the present defense program, not only among the armed forces but among defense workers as well, a resolution has been directed to Washington urging that there be no undue interference with the manufacture of these products or the materials from which they are made. This resolution was adopted at the recent meeting of the National Association of Insecticide & Disinfectant Manufacturers in Chicago. Whether it will have any effect in Washington remains to be seen, although we doubt, in the present excitement, that it will receive more than scant attention. As a matter of fact, the demands of the armed forces for certain sanitation materials bid fair to leave but meagre supplies available for the civilian population if the heavy buying continues. Maybe the government could use a little practical advice from the industry in the purchase of sanitary chemical materials. If at all possible it would seem desirable to avoid interfering with supplies for normal consumption purposes, simply to stock government warehouses with excess reserves which may not be needed for several years.

N. A. I. D. M. MEETING

Insecticide and disinfectant manufacturers in 27th mid-year meeting at Chicago . . . address resolution to Washington to forestall interference with raw material supplies . . . defer action on model insecticide law . . . "Information Please" session evokes wide interest . . . 250 attend.

THE National Association of Insecticide and Disinfectant Manufacturers, at its 27th mid- year convention in Chicago, June 9 and 10, took steps to make certain that the industry's essential position in the war crisis is clearly understood by Washington officials. A resolution, adopted in the meeting's closing hours directed that representation be made at the Capital to forestall any undue interference with the manufacture and distribution of raw materials required for producing insecticides, disinfectants and other sanitary supplies. The full text of the resolution is as follows:

"Whereas, knowing that the health and welfare of the people of our country and other countries are dependent upon the uninterrupted use of insecticides, disinfectants and other items pertaining to cleanliness and sanitation manufactured by members of this association: BE it resolved, that representation be made to Washington that there be no undue interference by government agencies in the manufacture and dispersement of the necessary raw materials that are essential in the manufacture and distribution of these products."

Following a spirited debate on the question of restricting sale of insecticides and disinfectants to unbroken packages, the Association adopted a motion deferring action on the proposed model insecticide law which had been advocated for submission to the various state legislatures. The motion, which was offered by Russell Young, president of Davies, Young Soap Co., Dayton, O., was approved, without a dissenting vote. It reads as follows:

"Be it moved, that the draft of the model bill be submitted to the Board of Governors for further consideration and revision with suggestions of the membership and for use by the secretary and legislative committee when necessary, in handling problems of state legislation."

The two-day convention brought almost 200 association members, as well as representatives of supply houses, scientists, government men and others to Chicago's Edgewater Beach Hotel. Highlighting the proceedings were numerous reports on scientific projects sponsored by the Association in its program to enable members to make better products. Other industry problems discussed dealt with merchandising, salesmanship and consumer attitudes and with the current monetary situation.

In his address opening the convention, President W. J. Zick of Stanco, Inc., keynoted conference deliberations with a double barrelled protest against "price selling which is not based on manufacturing costs," and against the practice of making claims for a product "which cannot be substantiated." When the cost of raw materials, labor, containers and other elements are all going up, he said, consumers might well question the "Black Magic" which enables some manufacturers to offer larger packages at lower prices. Such merchandising is not based on manufacturing costs, he asserted, and is ap-

parently only an effort to get by through an appeal to the price buyer. Economies effected by improving operating efficiency would make fair prices possible, he pointed out, while research to improve quality would bring increased sales. "In any manufactured product," said President Zick, "the quality must be there or, when the customer finds himself badly treated, he will think of making new connections."

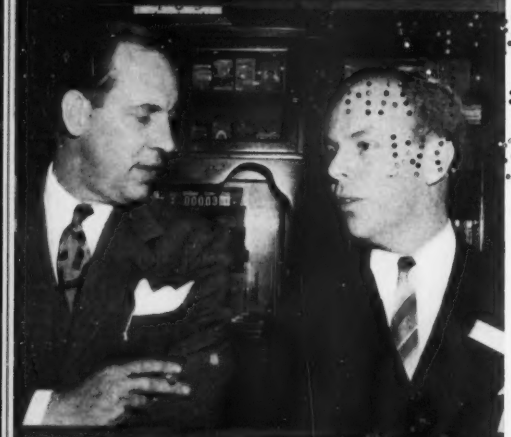
"Why do some manufacturers make unfair and extravagant claims about their products?" Mr. Zick asked, in continuing his discussion of industry evils. "The average consumer is reasonable and specifications which cannot be substantiated are unnecessary. If this is not soon recognized, some manufacturers are due for a rude awakening. For, eventually, our business will be regulated and policed for us by government agencies."

Secretary Ira P. MacNair, in his report on association office activities, said 61 bulletins have been issued during the past six months. Proceedings in 44 state legislatures have been followed and most of the objectionable bills affecting the industry have been defeated. Others remain to be dealt with in Wisconsin, Pennsylvania and Oklahoma. In the latter state the undesirable measure has passed both houses. Other matters handled concerned weights and measures bills and state trade barrier laws. The recently adopted Official Test Insecticide, he revealed, has been shipped throughout the world and the O.T.I. is rapidly being regarded as a world standard for insecticide testing.

Army and Navy procurement officers, he stated, show 'woeful ignorance' regarding insecticides and disinfectants and the Association's work in this market will continue. Regarding the proposed modern state insecticide law, he explained that it had been drawn up with the idea of having something definite to offer, so that the organization would not be in a position merely to criticize. He also offered the suggestion, later adopted, regarding the need for action in Washington to allay interference with the manufacture of necessary supplies.

Close attention was given Charles B. Dunn, Chicago, general counsel for the 7th Federal Reserve District, who outlined the organization and functions of the Federal Reserve System and explained the nation's monetary preparedness program. "A secure monetary system," said Mr. Dunn, "is necessary to the success of the armament program and constitutes a bulwark of defense for the nation." Because of problems created by national defense, he added, the system is unable to discharge its functions effectively. To correct existing weaknesses, he said, a five-point program is now under consideration.

From Chicago's Michael Reese Hospital came C. O. Auslander, the institution's purchasing agent, with a hard hitting plea for manufacturers of sanitary products to "work with us and do not try to work us." His paper on "What the Hospital



Likes and Dislikes in Sanitation Supplies" presented a broad picture of institutional attitudes and explained trends in hospital purchasing practices. The hospital buyer, he said, is by habit and training, cautious and conservative. A sales organization's objective is to improve its sales record, so the buyer must withstand pressure yet continue to maintain the salesman's respect. Today there is more buying and less selling. Purchasing agents are striving to improve their knowledge of how to buy. The seller should therefore concentrate on an educational presentation of his products. Educational advertising literature, he advised, is religiously filed for reference."

"In the institutional field," said Mr. Auslander, with bold frankness, "manufacturers of sanitary supplies are looked upon with great disfavor. It is human nature to get all one can. But it is also smart business and smart thinking to merchandise your products without extravagant or false claims. Continually growing outside pressure has checked this tendency and forced manufacturers to adopt high standards of quality and intelligent sales policies. We in the hospital field would like to see your products sold on a basis of ingredients and performance—on their ability to do a specified job in a satisfactory manner."

Asking the question: "Would a hospital make its own sanitary supplies if they learned the formula?" Mr. Auslander said they all have capable chemists who could do so. He added, "It will, however, always be profitable for you to manufacture and for us to buy. If you wish to stop institutions from making their materials, work with us and don't try to work us. Avoid trick advertising, which does not register anyway. Tell us the whys and wherefores of your products. Set high standards and your merchandise will be sought and bought."

Mr. Auslander's remarks provoked a protest from Dr. George F. Reddish, of Lambert Pharmacal Co., who declared from the floor that "we in this industry and this association have raised our standards to the point where I can be proud that I'm a part of the business."

"We're in it to make a profit," he continued, "but we are making good germicides and we're doing it, not because the government says so, but because we want to." He cited a Consumers Research report on one product which, he charged, ignored the entire literature on the subject and was based on a paper by a young intern who, he said, had had only an elementary course in bacteriology. "Later," said Dr. Reddish, "he and I spent three days together and eventually found the source of his errors which had made him misread his results and caused the erroneous report on the germicidal properties of this product."

C. N. Skidmore, purchasing agent of Northwestern University, Chicago, closely paralleled some of Mr. Auslander's suggestions in his talk on "Buying Maintenance Supplies." He decried "makeshift products carelessly sold," which forced buyers to spend too much time in testing them. Since there are two opposing sets of interests, he suggested that seller and buyer "get their hands dirty together," in using the product. "When we get the right answer that way," he declared, "you'll make a sale."

Professor Fred A. Russell, of the School of Commerce, University of Illinois, who was the final "outside" speaker, gave a witty presentation of his topic, "A Modern Slant on Selling." He outlined a new procedure based on modern concepts of the science of selling, through which, he said, it is as easy to evaluate the potential abilities of a candidate for a salesman's job, as to determine the practical utility of a fly spray. In essence, as he explained it, the man is measured against predetermined standard specifications to detect the presence or absence of desirable qualities.

For Master of Ceremonies at Monday's "Information Please" clinic, Russell Young, president of Davies, Young Soap Co., was drafted to act in the enforced absence of C. P. McCormick. Serving on the Board of Experts were: Dr. A. E. Badert-

scher, McCormick & Co.; Dr. E. G. Klarmann, Lehn & Fink Products Corp.; L. J. LaCava, Continental Can Co., and Ira P. MacNair, MacNair-Dorland Co.

Questions involving specific technical problems were numerously fired at the experts, while others of a more general nature brought out thoughtful opinions and ideas of practical value to the entire industry. Numerous contributions from the floor supplemented the information given by the experts.

Answering a question regarding the shortage of metals for non-defense purposes and its possible effect on supply and prices of metal containers for the industry, Mr. La Cava declared the time is ripe for giving serious consideration to the problem of finding substitutes for tin cans for insecticides. He proposed the pooling of all available information concerning how long a fly spray will stand up in terne plate and made other practical suggestions bearing on the container situation.

The question "What are the two biggest drawbacks to a wider use of disinfectants and could these drawbacks be eliminated or reduced?" brought out the declaration that "People don't know about disinfectants and we don't know how to tell them. What is needed is more education.

The question "In view of the metal shortage, is it desirable to offer sprays of a higher degree of concentration in smaller cans?" was answered with the assertion that it is possible to make more strongly concentrated sprays and provide directions for their satisfactory use by householders or farmers.

"Should members use a replica of the association emblem on their packages?" brought the response that the consensus of opinion is against such a practice. Members should not use the emblem, it was explained, because this would be assumed to be a seal of approval and would cause complications.

One question revealed that Colorado and Washington have passed insecticide control laws since January 1, bringing to 26 the number of such state regulatory statutes. The average registration fee among the 26 is $10.

Another question regarding the advantages of mechanical electric sprayers over steam vaporizers was answered to the effect that good results can be obtained with either, although the same results can be obtained with the electric sprayer in shorter time. From the floor came also the declaration that "I have never seen a steam sprayer deliver the results that it should."

Tuesday morning's debate on the subject "Should the sale of insecticides and disinfectants be restricted by law to unbroken packages" was opened by the Association's Washington consultant, Henry C. Fuller, who explained the nature of the proposed "Model Insecticide Law" and discussed its desirability. The prime motive, he emphasized, is to have something concrete to offer whenever discussion of regulatory measures comes up in state legislatures. Mr. Fuller also discussed interstate trade barriers and explained the operations of the government's Interdepartment Committee, which acts as a clearing house for receiving complaints and placing them before the Council of State Governments for attempts at uniform local action.

Regarding the "unbroken package" proposal J. M. George, secretary, Interstate Manufacturers Association, Winona, Minn., declared no complaints of tampering have been made by consumers. The argument, he said, is based on the assumption that the middleman is less honest than the manufacturer. "Things have come to a pretty pass," he continued, "if we have to regulate that kind of a handler. The people can take care of themselves. Regulation leads to contempt for the law. If there is no moral or practical reason behind it, the regulation will be ignored and a situation will arise worse than what we are trying to eliminate."

Problems of tampering, losing and stretching he dismissed as "not of sufficient importance to warrant regulatory action," and he also pointed out that competition from consumer cooperatives would create

increased disadvantages to manufacturers. He conceded, however, that for sales in broken cartons information tags should be required, so that purchasers would have proper protection.

John N. Curlett, of McCormick & Co., and first vice president of the Association, in speaking for adoption of the model bill, declared that aside from the matter of waste in re-filling, there is definite evidence of adulteration and trickery. He pointed out that when unfavorable publicity results from mistaken use of powdered insecticides, the true responsibility for the error never comes to light in the public mind. "State legislatures," he said, "in demanding unbroken packages, consider the public viewpoint closely and are wide open to any suggestions that seem to offer protection to the public. Our purpose in proposing the model bill is not to discriminate against any group of manufacturers but to have something definite to offer state law makers. We've had a long fight to make both our members, consumers and the public generally, conscious that the insecticide industry has high standards. In the minds of the consuming public we stand now on a high plane and our purpose is to stay there. We cannot afford to pass up any opportunity to put into state laws any provision which will be a protection to the public."

In the discussion from the floor, which followed the platform arguments, the position of manufacturers who sell in bulk to jobbers was emphasized and the debate closed with the adoption of Mr. Young's motion, previously mentioned.

In nine reports on research projects scientists from state colleges and commercial laboratories contributed material of immeasurable value to the progress of the insecticide and disinfectant industry. These reports will be carried at length in this and subsequent issues so that only brief mention of the various papers is made here.

A paper on "U.S.P. Cresol vs. Cresylic Disinfectants," prepared by Gordon M. Baird of Baird & McGuire, Inc., was read in his absence by R. R. Neptun of Allaire, Woodward & Co., Peoria, Ill. Viewing the current shortage of U.S.P. cresol, the paper presented the advantages of cresylic disinfectants, of which five were listed as follows: lower cost per unit of coefficient; lower initial cost; higher germicidal value; increased solubility; availability in large quantities. Suggestions were also made for developing new markets through new applications of the product.

NAIDM MEETS DEC. 1

The 28th annual meeting of the National Association of Insecticide & Disinfectant Manufacturers will be held on Dec. 1 and 2, 1941, at the Hotel Roosevelt, New York.

"Evaluation of Liquid Insecticides Against Crawling Insects." A final report on a project sponsored by N. A. I. D. M., conducted by Dr. F. L. Campbell, professor of entomology, Ohio State University. Colored motion pictures graphically presented the work done to determine the action of insecticides on roaches and bed bugs. No recommendations were made, further than that the subject should be given additional study.

"Some Bacteriological Aspects of the Public Sanitation Problem"; by Dr. G. J. Hucker, New York State Agricultural Experiment Station, Geneva, N. Y. Paper read by Wm. G. Walter. The investigation sought to determine the presence of pathogenic organisms on door knobs, toilet seats, floors, etc., in public places. Not many cola-formed organisms, connected with fecal contamination, were found. Hemolytic streptococci, capable of communicating disease, were found in wash rooms of theatres, Y. M. C. A., bus terminals, railroad station, etc., and in 17 of 23 school rooms. Usually located on wooden parts rather than on brass, chromium, nickel or porcelain objects. A method was developed which "we are quite certain can pick up hemolytic streptococci, if present. The next step in the investigation will be to determine the effect of disinfectants on the pathogenic organisms.

"Control of Household Insects With Smokes Containing Pyrethrum, Derris and Certain Synthetics." A report on work done by Dr. Lyle D. Goodhue and Wm. L. Sullivan, presented by Dr. R. C. Roark, in charge of insecticide investigations, U. S. D. A. The smoke method is practical and has a wide choice of materials. Within the last six months a method has been developed for spraying the liquid on hot plates which produces exceedingly fine particles with very slight traces of products of combustion remaining. No answer yet as to the effects on white walls. Have not worked the minimum quantity necessary to get a 100 per cent kill. The fundamental nature of the process has been tentatively determined and the Bureau intends to investigate its practical limitations. "Don't get too enhusiastic," said Dr. Roark.

"A Twenty-year Picture of Pyrethrum Prices and Scientific Investigations," by Dr. C. S. Corl, of Allaire, Woodward & Co. Graphs portrayed changes, indicating decrease in the spread between selling price and import costs of pyrethrum and revealing the gain in imports from Kenya over pyrethrum flower imports from Japan.

"Correlation Between Repellancy and Evaporation of Commonly Used Stock Spray Base Oils." By H. E. Whitmire, Whitmire Research Corp., St. Louis. Four conclusions offered: (1) The rate at which a cattle spray loses its killing power and repellency is proportionate to the rate of evaporation of the base oil; (2) The exact length of time certain base oils would remain on the animal indoors and outside, when properly applied, was determined; (3) The investigation recognized the importance of work previously reported on droplet size with regard to the speed of evaporation of the base oil. (4) Repelling efficiency should be carefully studied in relation to rate of evaporation.

"A New Method For Studying the Effectiveness of Cattle Fly Sprays," by Dr. Ed M. Searls, University of Wisconsin. Described procedure and method of making calculations to determine the true value of treatments and minimum significant differences. Following this talk Dr. Bishop of the U. S. D. A. announced that a report will shortly be released covering a government investigation of repellants on animals that will consider additional elements in the problem.

"Deterioration of Powdered Pyrethrum." By Dr. Alfred Weed, John Powell & Co. 182 samples in 4-oz. metal containers were stored at room temperature for nine months. An 18 per cent loss in pyrethrin content resulted. The drop in Pyrethrin I reached equilibrium in three months. Pyrethrin II varied but little in nine months.

In presenting the report of the Insecticide Scientific Committee Dr. A. E. Badertscher, chairman, suggested that a copy of the motion picture covering Dr. Campbell's work on roaches and bed bugs at O. S. U. should be obtained by the Association, to be loaned to members, through the national office, and for use only for educational purposes.

Frank C. Nelson of Stanco, Inc., chairman of the Committee on Methods of Testing Cattle Sprays, reported that a bibliography and summary of literature on cattle spray methods to date had been compiled for publication in *Soap and Sanitary Chemicals*. The Committee is to continue its activities and hopes to review further progress.

Fred Fletcher of Dow Chemical Co., reporting as chairman of the Committee on Moth-proofing Investigations, stated that definite tests and specifications were expected to be ready within six months. Twenty-two laboratories are collaborating on the project, including six for the American Society for Testing Materials, four for the American Association of Textile Chemists and Colorists and twelve within the N. A. I. D. M.

The "Board of Experts" for the Quiz Session

Dr. E. G. Klarmann, of Lehn & Fink Products Corp., and chairman of the Disinfectant Scientific Committee, reported that a method to determine the fungicidal action of disinfectants has been developed, something that has not been available before. This has been presented at a meeting of the Scientific Bacteriologists Association and is to be published. Copies will be circulated to members for comment and if approval of government regulatory agencies is obtained, it will be made official.

A report on standardization of coloration of powdered insecticides was presented by the Secretary.

Dr. Badertscher, in completing the general scientific committee's report, said the group had been swamped with unanticipated work on insecticide specifications requested for purchasing agents of states, cities and institutions. Continuation of Dr. Campbell's work, he said, hinged on the ready availability of large supplies of bed bugs and roaches. "This project," he remarked, "offers an opportunity to commercial laboratories to make a prosperous living."

He also called attention to the situation created by the defense demand for tin and other metals and declared: "We must now think of a series of tests to see if we can pack sprays in the types of containers available, and also check the lacquers available. This information we will try to pool for members' benefit."

The Resolutions Committee, whose principal resolution has been already referred to herein, was composed of Jack Varley, C. M. Poole, R. C. Cowen, M. L. McGee and W. A. Hadfield, with the last named as chairman. Resolutions were adopted expressing deep regret at the death of Dr. Lee A. Strong of the U.S.D.A., and extending sympathy and condolence to his family. Telegrams of sympathy and expressions of hope for their speedy recovery were authorized to be sent to C. P. McCormick and Gordon Baird. Thanks and

appreciation of their presence were also expressed to government representatives and guest speakers, who participated and helped to make the meeting a success. Recommendation was made that the next meeting of the Association be held Dec. 1 and 2 in New York City.

The convention closed with a beefsteak dinner and floor show the evening of Tuesday, June 10th.

Registration List

Firm — Representative

Allaire Woodward & Co.—Cady S. Corl, R. P. Neptun.
American Can Co.—J. E. Baechle, C. W. Carlson, Louis A. Trevisan.
American Disinfecting Co. — Alexander Fabry.
Armour & Co. Research Labs.—J. P. Barrett, G. L. Mennen.
Aromatic Products, Inc.—S. J. Vance.
Atlantic Refining Co.—F. I. L. Lawrence.
Auto Compressor Co.—F. W. Wilkin.

Baird & McGuire, Inc.—Jack Varley.
Baldwin Laboratories—H. W. Baldwin.
Barrett Co.—Leon W. Miller.
Henry Barroll & Co.—J. N. Davies.
S. H. Bell Co.—S. H. Bell.
A. S. Boyle Co.—G. A. Bowden.
Breuer Electric Mfg. Co.—G. Wm. Breuer, J. W. Stokes.
Buckeye Chem'l & Specialty Co.—H. M. Epstein.
Brocker Chemical Co.—F. E. Brocker and R. E. Mercier.

Candy & Co.—R. M. Lockhart.
Can's, Inc.—R. E. Kenney.
Central Can Co.—Henry Frazin.
Chemical Supply Co.—Henry A. Nelson.
Commerce Petroleum Co.—Werner R. Husen.
Consolidated Chemical Labs., Inc.—H. A. Brereton, G. W. Deibel, M. H. VanderPearl.
Continental Can Co.—A. H. Green, O. G. Jakob, L. J. LaCava, George Thacker, R. V. Wilson.

Davies-Young Soap Co.—R. B. Trusler, R. H. Young.
Derris, Inc.—R. L. Cahill, R. F. Joyce, O. M. Poole.
Dicalite Co.—H. H. Bliss.
Dodge & Olcott Co.—Ralph W. Bush, H. E. Rosensteel, R. B. Stoddard, Horace N. Taylor, Jr., Frank S. Topper.
C. B. Dolge Co.—Irwin Steig, C. L. Weirich.
Dow Chemical Co.—Fred Fletcher.
E. I. duPont de Nemours & Co.—E. B. Alvord, S. J. Hill, Fred W. Wolff.

Enoz Chemical Co.—Sidney J. Coyne, H. R. Rich.

Federal Varnish Co.—M. J. Flanagan, John H. Lawson.
Felton Chemical Co.—C. A. Hanley.
Fritzsche Bros.—Joseph A. Gauer.
Furst-McNess Co.—C. W. Furst, F. P. McNess.

Geigy Co., Inc.—Dr. Victor Froelicher.
General Laboratories—Stella M. Costigan, Chas. B. Griffin, Jr., W. A. Hadfield.
Givaudan-Delawanna, Inc.—Martin B. Vance.
Gulf Oil Corp.—Wallace Thomas.
Gulf Research & Devlpmt. Corp.—W. A. Simanton.

B. Heller & Co.—James R. Heller.
Hercules Powder Co.—Friar Thompson, Jr.
Dr. Hess & Clark, Inc.—D. E. Clark.
Hetherman, Inc.—Thomas Hetherman.
Hooker-Electrochemical Co.—Wm. H. Monsson.
Huntington Laboratories, Inc.—J. L. Brenn.

Kilgore Development Corp.—Jared H. Ford.
Koppers Co.—J. H. Carpenter, H. D. Cooper.

Lambert Pharmacal Co.—Dr. G. F. Reddish.
Lehn & Fink Products Corp.—Dr. E. G. Klarmann.
Richard W. Leonard, Inc.—W. G. Dormeyer.

W. B. McCloud & Co.—Walter S. McCloud.
McConnon & Co.—James McConnon.
McCormick & Co.—Garl A. Buck, A. E. Badertscher, John N. Curlett, Lester W. Jones.
McLaughlin Gormley King Co.—G. A. McLaughlin, C. L. Schroeder.
Magnus Mabee & Reynard, Inc.—J. B. Magnus, R. C. Ringgold.
Mellon Institute—O. F. Hedenburg.
Merck & Co., Inc.—A. F. Frantz, E. P. Scown.
Midway Chemical Co.—L. D. Benedict, Ralph Simpon.
Monsanto Chemical Co.—Arthur A. Hibbeler, Fred C. Renner, Charles Sommer.

National Can Co.—C. A. Beach, Jr., T. J. Beirne, J. H. DeLacy, Wm. R. Janney.
Niagara Alkali Co.—James E. Ferris.
N.A.I.D.M. Consultant—H. C. Fuller.

Owens-Illinois Can Co.—G. E. Kummerow, F. W. Rosenbauer.

S. B. Penick & Co.—Fred F. Rauch, W. J. Welsh.
John Powell & Co.—Harry S. Ahles, C. G. W. Campbell, David W. Lynch, John Powell, Alfred Weed.
R. J. Prentiss & Co., Inc.—A. W. Bevernick.
Pure Oil Co.—Christopher A. Murray.

Reilly Tar & Chemical Co.—Wm. J. Dunnican, J. L. Tildsley, Jr., F. C. Yeazel.
Rex Research Corp.—H. W. Moburg.
Rochester Germicide Co.—W. B. Eddy.
Rohm & Haas Co.—C. J. Dumas, Carlos Kampmeier, John H. Mueller, D. F. Murphy.

Sinclair Refining Co.—T. L. Carpenter, N. J. Gothard, A. G. Grady, F. O. Huckins, C. F. McGoughran.
Shell Oil Co.—S. C. Dorman, R. L. Speer.
Skinner & Sherman, Inc.—Burton G. Philbrick.
Foster D. Snell, Inc.—C. S. Kimball.
"Soap & Sanitary Chemicals"—Grant A. Dorland, Ira P. MacNair, Thomas Morgan, H. H. Slawson.
Socony-Vacuum Oil Co. — Alan W. Morrison, A. C. Pabst, C. E. Smith.
L. Sonneborn Sons—Edgar E. Brand, Dr. Erich Meyer.
Stanco Distributors, Inc. — R. B. Davies, F. C. Nelson, F. J. Oertel, W. J. Zick.
Standard Oil Co. (Indiana) — E. W. Adams, C. R. Cleveland, James A. Green.
Standard Oil Co. (Ohio)—R. O. Cowin.

The Tanglefoot Co.—Wm. J. Wagner.

U. S. Industrial Chemicals, Inc. — Marvin J. Rolstad.
U. S. Sanitary Specialties Corp.—R. J. Ballentine, Geo. L. Simmonds.

vanAmeringen-Haebler, Inc.—Paul W. Milbrat.
R. T. Vanderbilt Co.—Wm. K. Feustel.
Velsicol Corp.—J. Hyman, A. R. Jameson, N. L. Mooneyham, R. W. Sayre.
Vestal Chemical Co.—Wm. F. Pollnow.

T. F. Washburn Co.—M. L. Magee.
J. R. Watkins Co.—Dr. E. G. Thomssen.
West Disinfecting Co.—Ralph Jackson.
White Tar Co. of N. J.—H. W. Hamilton, R. C. Wickersham.
Whitmire Research Corp. — William R. Becker, Dr. H. E. Whitmire.
G. H. Wood Co., Ltd.—G. H. Wood.
Western Chemical Co.—E. G. Garvey.

Guests

Dr. F. C. Bishopp—U. S. Dept. Agriculture, Washington, D. C.
Dr. C. C. McDonnell—U. S. Dept. Agriculture, Washington, D. C.
Dr. E. R. McGovran—U. S. Dept. Agriculture, Beltsville, Md.
Dr. R. C. Roark—U. S. Dept. Agriculture, Washington, D. C.
Walter M. Scott—U. S. Dept. Agriculture, Southern Regional Research Laboratory, New Orleans.
Charles B. Dunn—Federal Reserve Bank, Chicago.
J. M. George—Inter-State Manufacturers Assn., Winona, Minn.

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"TRADING DOWN"

By William J. Zick*

President, N.A.I.D.M.

THE subject for my talk in opening the 27th mid-year meeting of the National Association of Insecticide & Disinfectant Manufacturers is what I have called "Trading Down"; in other words, price selling. The firms in our association seem to be going through a period of price-conscious merchandising which is not based on lowered manufacturing costs, nor on economies resulting from volume or research. It is apparently a desire to get volume, forgetting entirely whether the volume is profitable volume or not.

As a result, a large number of inferior products are on the market which appeal to the price buyer and the supposedly price-conscious consumer. Instead of "trading up" by pointing out that a smaller quantity of Grade AA insecticide will do the job better because of its higher quality, or that a quality floor wax will last longer and give a better and more permanent finish, all one hears is price. A larger package is offered at a lower price, not at all justified by ingredient costs, cost of compounding or marketing.

It would appear that our associate members must be smiling to themselves and wondering what sort of black magic the manufacturers of disinfectants, insecticides and sanitary specialties are working to constantly be able to reduce prices with all raw materials, including labor, as well as containers going up in price. There is just no sense to it.

You have, I am certain, all realized that quality and fair prices are the open sesame for increased sales. I believe it is up to our industries as a whole to do more research to market better products and let prices be of secondary consideration.

A pleasing thing to remember is that between 60 and 80% of the people stick faithfully to their business friends and favorite brands of goods. It is hard for a newcomer to break into the magic ring. It is only when the customer is badly treated or ignored, generally speaking, that he even thinks of forming new connections. To hold old customers is always infinitely easier than getting new ones.

Setting low prices without regard to quality or cost of production reminds me of the anonymous poem on Spring:

> Spring has came
> Winter has went
> It was not did
> By accident
>
> The birds have flew
> As you have saw
> And Spring has came
> To Arkansas

In much the same way as Spring comes in Arkansas are some of the products manufactured, priced and marketed in our industry.

The management and salesmen are entirely dependent on the quality of their product for sound growth in sales. I am reminded of the pillar of the Church who died and when he appeared at the pearly gates an Angel guide ushered him in and took him down an avenue of lovely homes and finally turned into a side street, stopped before a little unpainted shack; the pillar was angry and refused to live in it. But said the Angel guide: "I'm sorry but that is the best we could do with the material you sent up to us." Many manufacturers are in the same position as the deacon because of the quality of their products.

The manufacturer's product must do all that the label claims for it. The quality must be there, the price must be fair for the quality involved. The salesman must be truly representative of the firm, because what does a salesman do but represent the firm. What does represent mean? Webster says represent means to re-present or to present the principal and the product to the prospect. The salesmen must be so sold on the firm and the product he represents that he is too busy selling his own products to worry about his competitor.

Under proper training a salesman or a sales force makes no claims for his product that cannot be substantiated—because he does not need to. His product is tops and does all that is required of it, but the impossible is not claimed for it. The honest manufacturer does not need to make unfair or extravagant claims to sell his product. Intelligent presentation to the trade and to the consumer is all that is necessary. The average consumer is a rather reasonable individual, I am sure you will agree. Then why do manufacturers make claims that cannot be substantiated

(*Turn to Page* 121)

*Before 27th mid-year meeting, National Association of Insecticide & Disinfectant Manufacturers, Chicago, June 9 and 10, 1941.

A Hospital Buyer's View of

SANITARY SUPPLY SELLING

By C. O. AUSLANDER*
Michael Reese Hospital

PURCHASING in most hospitals is done by the superintendent. There has however been a constant growth and recognition of the importance that purchasing plays in the proper management and operation costs of a hospital—until more and more, purchasing is being placed in a separate department—under the supervision of a trained and experienced purchasing agent. Recognition of this fact is reflected—in that for the first time, a purchasing section was added to the Tri-State Hospital Assembly a few weeks ago. This group embraces all hospitals in the States of Illinois, Indiana, Michigan and Wisconsin. It is my prediction that it is only a matter of time before we shall have a National Association of Hospital Purchasing Agents.

Many consider the purchasing agent a hard, unreasonable, cold-blooded animal who treats all salesmen with suspicion and antipathy. That is not true—at least not always. The purchasing agent is by habit and training, cautious and conservative. His duty is to withstand the blandishments, persuasiveness and the pressure of sales organizations and at the same time, to try to preserve their good will and respect. A successful buyer, moreover, must be progressive as well as conservative. He must analyze the costs of commodities with accurate knowledge of the volatile factors of quality, source of supply and the economic trend. He has learned to his sorrow and from long experience, how and where to say "NO." To him it is and always will be "Hell if you do" and "Hell if you don't." He has taken it on the chin for responsibility of over and understocking so many times that he has become callous to the supply man's plea for bigger and better orders.

Years ago, many of the members of your industry placed on the market products which were misbranded, sold at exorbitant prices, and with undue claims made on what the products could accomplish. This has proven true, to mention only a few businesses, in the drug and patent medicine field, in the meat industry, as well as in the insecticide and disinfectant field. Practically every business has used some means of exploiting and fooling the consumer with false and exaggerated claims.

It has always been the external pressure of outside bodies and groups—either the buying public, or competitors, which produced the changes in unhealthy practices. Due to the mis-labeling and exaggerated claims in the drug and patent medicine field, the Food and Drug Act was passed, to protect the buying public. This was likewise true in the meat industry. In your own business, due to abuses, with which you are all acquainted, the Insecticide Act of 1910 was passed.

I could go on and on mentioning dozens of businesses where improvements and changes were made to eradicate near-sighted sales policies—all to better protect the consumer of the products. Invariably each industry fought the changes—but progress in protecting the public has changed from being looked upon as a social phenomenon or indication of a tendency to be a thinking pink—to a realization that it is smart business, and smart thinking—to merchandise and sell—without exaggeration and distorted claims and practices.

As a result of the natural tendency of near-sighted business men to foist upon the public products which are sold under false and misleading claims and branding, birth was given to a movement, reflected in a couple of publications called the *Consumers Digest* and *Consumers Bulletin*. These publications attempt to inform the public on what is and what is not a good buy. Whether they are right or wrong in their specific endorsements or indictments of many advertised products—I am not in a position to properly judge. However, it is my opinion that the publishers and editors are as human as the manufacturers they often criticize—they are sometimes right—and sometimes wrong.

*Before 27th mid-year meeting, National Association of Insecticide & Disinfectant Manufacturers, Chicago, June 9 and 10, 1941.

What is more interesting and important to me—is the continued growth and pressure of external forces which act as a check and are gradually forcing manufacturers to set up such standards on quality, branding, advertising and prices—that in due time they will gradually eliminate unhealthy practices which still exist. Due to these practices, your industry has in the past been looked upon in the industrial and institutional field with great disfavor. This, in spite of the fact that the estimated purchases of products vitally necessary to health and sanitation in institutions and hospitals run to about 10 per cent of every dollar spent in purchases—and the total purchases for hospitals run to well over three million, seven hundred and fifty thousand dollars per year.

THERE are a few things we purchasing men would like to know when buying sanitation supplies:—

We would like to know, when we are buying a cleanser, that it is tri-sodium phosphate and not "Four Ex Magic Ultra Colossal Dirt Eradicator."

We would like to see your products sold for what they are, with the ability to do a certain job economically and well.

We'd like to see literature sent out by you that would eliminate or avoid a lot of romantic verbiage.

We'd like to see your merchandise sold to us on a basis of meeting United States Government standards for the products, or even better,—to have you yourself grade your merchandise by its ingredients and its performance ability.

We'd like to see you men and your association send us literature of an educational nature, which would be specific on the composition of your merchandise, what it can do in performing a certain job, and what firms are presently using your products.

We'd like to see your association send out a folder which would be marked "Sanitation Information" that would hold 8½ x 11 bulletins or descriptive literature on the products you people make. I can assure you that educational advertising literature would be religiously filed and referred to if it was offered to the purchasing body.

Don't wait for a purchasing group to set standards of requirements for you, but get them started yourself.

There probably will always be fly-by-night outfits who will continue to manufacture, misrepresent and exaggerate about sanitation products, but by following an educational campaign through your association which represents the leading manufacturers, you will in time stamp out the malpractices of the pests that infest your industry.

A question may be asked?—"If sanitation and disinfectant supplies were marked for what they are, what ingredients they are made of—then might not institutions and hospitals make them themselves, and thus cut off sales which may be due to a present lack of knowledge on how to make these products?" To the very few of you who may have this thought, let me assure you that the chemists and research departments at the hospitals are quite capable and can easily duplicate practically anything you men manufacture. However, it is our business to treat and cure the sick—to have our research men spend their time developing cures to exterminate disease.

It will always remain profitable for manufacturers to make and sell merchandise to us and it will always be profitable to buy your merchandise and not make it ourself, providing the merchandise is made to meet fixed high standards of quality and performance—and the selling price permits a reasonable—not extortionate profit to the manufacturer. It is only due to the fact that manufacturers have in the past, and many in the present, still try to take advantage by foisting high-priced and poor quality sanitation products on institutions, that we hospitals in turn in some cases have gone to the bother of making up our own soaps, our own insecticides, etc. The solution for stopping institutions from the practice of making some of their own sanitation supplies—and to encourage a greater use of many of your products is to work with us—and not try to work us.

It should be a simple matter for your industry to make it unprofitable for institutions to doodle in the manufacture of your products. When I say your products should be sold to us at a reasonable and not exorbitant profit—I mean just that. We in the purchasing field, condemn exorbitant prices for merchandise—as much as we condemn the practice of many firms of price cutting—to a degree where profit vanishes entirely.

TO BUILD and gain the goodwill and cooperation of hospitals —I would recommend the following:

Let this Association by an educational campaign approach key institutions, outlining their purpose to clear up the mystery that surrounds most cleansing products, and enlisting the aid of these institutions to further the standardization of products used. One item can be taken at a time, with a committee acting for the Association to set up simple questionnaires covering use, performance, requirements, etc., in an attempt to standardize on suitable products. The advertising value alone, which can be derived by this standardization will be worth the cost many times. Acceptance by key institutions of the requisites of a certain product, would carry considerable weight if brought to the attention of other purchasing agents.

Another thing—avoid trick advertising—the alleged humorous stuff. A particularly smelly piece of direct mail was issued by a laboratory manufacturing an odorless deodorant. It was an accordion-folded affair. On one of the folds was a picture of a skunk. Another showed the skunk seated beside the chair of a girl. A subsequent picture showed the girl dusting under her arm, with the skunk lying dead at her feet. That's the kind of advertising that does not register.

(*Turn To Page* 99)

The Case for CRESYLIC DISINFECTANTS

*By Gordon Baird**
Baird & McGuire, Inc.

IN view of recent requests for bids for large quantities of U.S.P. Cresol Compound for the U. S. Army and Navy, the question of available supplies of the necessary cresol has become an important matter in the American disinfectant industry. The quantities of U.S.P. Cresol Compound called for are the largest on record, approximating to date some several hundred thousand gallons. This would require close to 150,000 *gallons* of U.S.P. Cresol for manufacture and such amounts of this material are not available at present. Accordingly, it has been suggested that the Army and Navy will, of necessity, be required to purchase cresylic disinfectants for their immediate needs as an ample supply of the latter can be produced today.

This current shortage of U.S.P. Cresol brings up the question of comparative uses and values between U.S.P. Cresol Compound and cresylic disinfectants. The present accordingly appears to be an opportune time to set down before buyers of disinfectants some of the points of difference. The uses and advantages will be explained along with a brief outline of composition.

First of all, let us consider the advantages of a cresylic disinfectant. It is possible for a manufacturer to offer a disinfectant with a higher germicidal value in a cresylic disinfectant than in a cresol compound made up by the formula as set forth by the U. S. Pharmacopoeia, the reason for this being that as early as 1907 it was found that as the boiling point of cresylic increases so does the germicidal efficiency, and generally speaking cresylic acid used in the manufacture of disinfectants has a much higher boiling point than does Cresol, U.S.P.

The initial cost, as well as the cost per unit of coefficient of cresylic disinfectant is less than for a Cresol Compound, U.S.P. We list a comparison between the two products:

Liquor Cresolis Saponatus USP XI

Cresol U.S.P.	50/51%
Phenol Coefficient	2. to 2.5
Approximate price per gallon	80c
Cost per unit of disinfecting value	35c

Cresylic Disinfectant

Cresylic Acid	50/51%
Phenol Coefficient	5 plus
Approximate price per gallon	70c
Cost per unit of disinfecting value	14c

(Both of these phenol coefficient tests are by the Food & Drug Administration Method, U. S. Department of Agriculture.)

Tests have been run by nationally-known bacteriologists showing phenol coefficient of cresylic disinfectants to be 6.3 against *B. typhosus* and 3.1 against *Staph. aureus;* whereas, U.S.P. compound has a coefficient of only between 1.0 and 1.3 against *Staph. Aureus.* In each case the tests were made by the Food & Drug Administration Method.

The approximate price per gallon, of course, will vary; but the ratio between the two prices will be approximately the same. The majority of manufacturers of disinfectant offer both products; therefore, in pointing out the advantages of a cresylic disinfectant over the other type no harm is being done to any manufacturer, nor is any group of manufacturers being favored.

The availability of cresylic disinfectant at this time places the product in an extremely favorable light over the cresol compound. Due to the war the plastic industry and many others have drained the supply of Cresol, U.S.P., from which the compound is made; this item consequently is most scarce. On the other hand cresylic acid from which cresylic disinfectant is made is not scarce. We have the imported grades which enable the manufacturer to produce high-quality disinfectants, of which there are still considerable amounts being imported. Then, of course, we have the domestic cresylics, as well as the acids derived from petroleum. With these three sources of raw material for cresylic disinfectant you can be assured that the finished disinfectant is readily available from all manufacturers.

Cresylic disinfectants can be made so that they are soluble in all proportions in water—either hard or soft. On the Cresol Compound, U.S.P., however, there are certain solutions that jell, meaning that the compound is not entirely soluble. It is definitely not soluble in hard water; nor does the Pharmacopoeia allow the manufacturer to deviate from the formula enough to overcome this distinct disadvantage.

The medical profession is well acquainted with both products; and in recent years this profession has in the majority of cases taken advantage of the high germicidal value and lower cost, and has requisitioned cresylic disinfectants rather than U.S.P. Compound. They are familiar with its composition and use and know how to employ it to best advantage.

*Before 27th mid-year meeting, National Association of Insecticide & Disinfectant Manufacturers, Chicago, June 9 and 10, 1941.

The advantages of cresylic disinfectant over Cresol Compound, U.S.P.. then are as follows: lower cost per unit of coefficient; lower initial cost; higher germicidal value; increased solubility; and availability in large quantities.

Cresylic disinfectants are, of course, used in many up-to-date hospitals. Apart from this outlet cresylic disinfectants are general disinfectants not confined just to hospital use. Many manufacturers have spent large sums of money investigating uses for this type product, and every one of us should take advantage of this research. Some of the uses are the disinfection of ordinary cuts and abrasions; as a disinfecting wash for the hands; cleansing and deodorizing kitchens, bathrooms, and sick-rooms. The product may be used also for bee stings and insect bites. In fact, for house cleaning, this is an ideal product to use from attic to cellar. Another use for cresylic acid disinfectant is for feminine hygiene.

Of course, hospitals use such a product as a disinfecting wash for the hands and as a disinfectant for surgical instruments. In this connection it is highly recommended as it makes a clear transparent solution and the instruments can be seen by the operator.

Cresylic disinfectant has been recognized by the Bureau of Animal Industry, U. S. Department of Agriculture, and it is referred to as a permitted disinfectant. Its use is plainly explained by pamphlets published by the Bureau of Animal Industry to control and prevent communicable disease among live-stock. Railroads, steamship lines, stockyards, packing houses, and the like use cresylic disinfectant for just this reason. It also is used for this purpose around dairies and farms where live-stock have been affected with communicable disease.

The National Association of Insecticide and Disinfectant Manufacturers worked for many years to bring about a commercial standard for a cresylic disinfecant; and on June 10, 1938, the National Bureau of Standards, U. S. Department of Commerce published such a standard. Every buyer, therefore, is assured of a standard product, and the manufacturers are well acquainted with the specifications set forth in this commercial standard. On November 5, 1940, a revision was recommended through the National Bureau of Standards to include the use of cresylic acid derived from petroleum. February 1, 1941, this revision was accepted. This brings the Commercial Standards up to date.

The user will find a slight variation in the composition of cresylic disinfectants, but the germicidal value is still available. The water percentage, for example, will run from 7 per cent to as high as 35 per cent; the glycerin content will vary from 2 per cent to 4 per cent; the soap used to saponify cresylic acid and make it miscible with water will vary according to the particular manufacturer; but to the ultimate consumer this will have no bearing as the product will be labeled in accordance with its germicidal value.

The odor is characteristic of cresylic acid. When the product is used as a disinfectant or deodorant around the house it leaves a definite clean odor. The composition of cresylic disinfectant is such that it does not deteriorate with age, which is an advantage over other disinfectants offered for sale for industrial, home, and institutional use.

Cresylic disinfectant comes to the consumer in highly concentrated form, and as has been explained should be diluted with water in certain proportions according to the use for which it is to be employed. Each manufacturer is well acquainted with the proper dilutions and so states them so that there is no confusion in the user's mind as to just how to use it, when to use it, and why.

Improvements in the manufacture of cresylic disinfectant, as well as research work in connection with this type of disinfectant, have given it a preferred position in the disinfectant market today. It can be used—and should be used—as a general disinfectant in hospitals, public institutions, homes, and wherever disinfectant is needed.

Hospital Sanitary Supply Sale

(*from Page* 97)

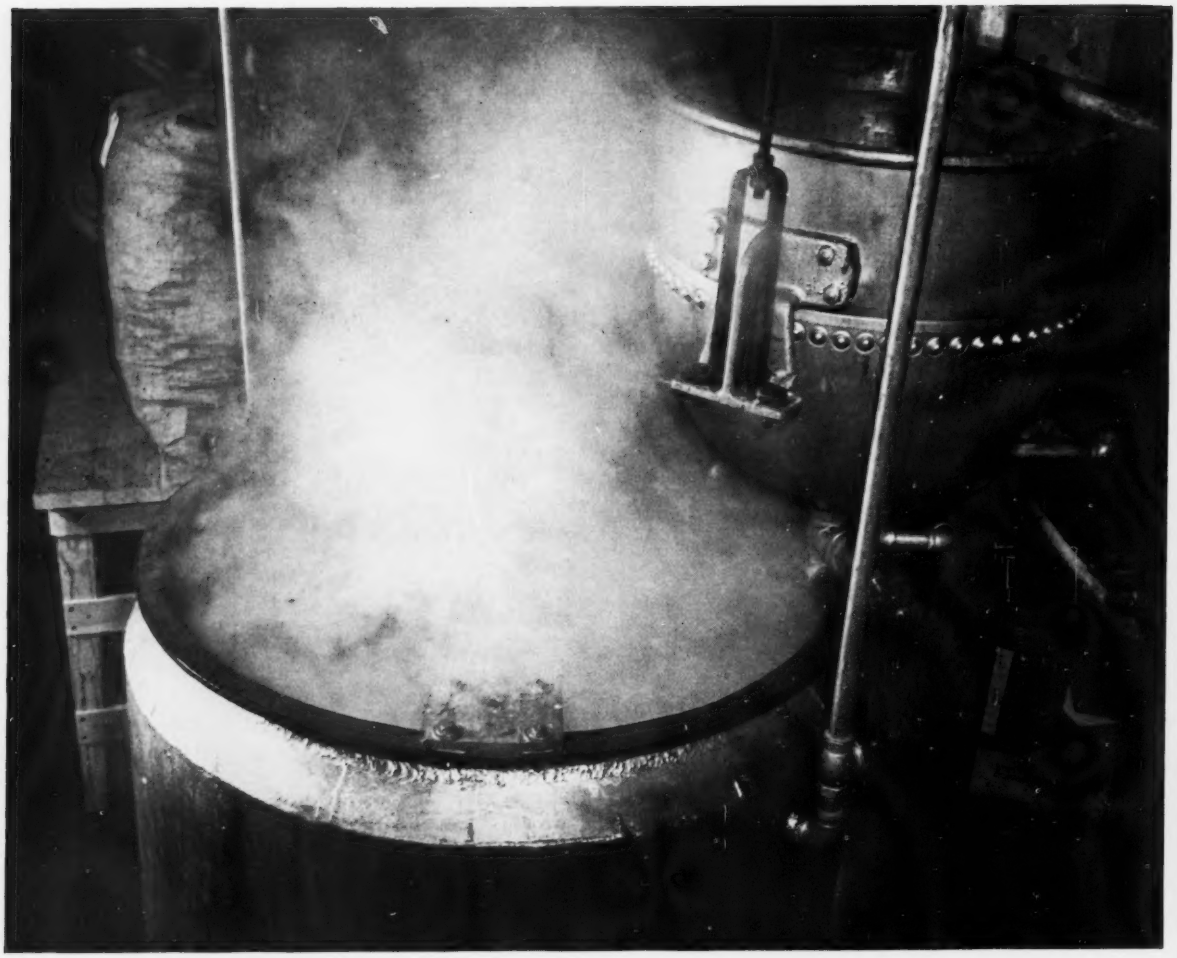
It would be a fine educational venture on the part of your association to issue a file folder with the legend "SANITATION" on it—and then follow with regular bulletins on cleansers, insecticides, deodorants, polishes, etc. On the inside of the file folder could be listed the manufacturers and distributors, members of this organization. You may be assured, a folder like this would be given file space and consulted regularly by the purchasing agent.

Along educational lines—we might take a leaf out of the promotional program of the meat industries who supply schools and colleges with charts for classroom work. What powerful charts could be devised for your industry. What a dramatic story could be painted, and what better field could we find than our educational institutes to drive home the need of your goods and services. I feel certain that if your industry would further develop your public relations department—it would go far in further educating your actual and potential market, on the whys, wherefores, and musts in buying and using your products. Your industry has an unlimited fund of material that would make for interesting news releases and informative articles, that would find appreciative acceptance by publications in the trade fields—as well as by newspaper and magazines of a general nature.

Work with your buyer by an educational program. Set high standards for your merchandise—and your merchandise will be sought and bought!

—— ♦ ——

Compositions for combating insects and rodents contain as a toxic material an alkene halogen thiol containing 2-6 carbon atoms, such as ethylene thiobromohydrin or propylene thiochlorohydrin. Willem Coltof, to Shell Development Co. U. S. Patent No. 2,217,358.



Liquid Floor Waxes

Part II

By Dr. E. G. Thomssen and Dr. J. R. Johns

J. R. Watkins Co.

THE question of equipment for manufacture of liquid waxes is dependent upon several factors. The quantity of product to be produced, the quality of the product to be produced, the amount of capital available, the question of labor in making, and the floor space available can all influence the type of equipment to be installed. Different manufacturers also have different ideas as to the best type equipment.

The minimum equipment which is necessary consists of 3 jacketed kettles for making, one kettle for storage and the necessary equipment for filling. Two steam-jacketed kettles without stirring equipment and one jacketed kettle with stirring equipment are required for actual production of the emulsions. If a 100-gallon lot of wax is to be made, the agitator kettle should be 150 gallons capacity, a water heating kettle, 100 gallons, and a kettle for making the gum solution, 25 gallons. The tank for storage is ordinarily sufficiently large to store several batches and need not be steam-jacketed.

The agitator kettle may be equipped with a removable agitator though a fixed mechanical belt-driven agitator driven at a speed of approximately 40 R.P.M.'s and the wide paddles so constructed as to fit the contour of the kettle quite closely is desirable. The high speed propellor agitators do not mix the viscous mass, when the wax is first made, as evenly as they should. They tend to destroy rather than to

promote proper emulsification. It is, of course, possible first to hand stir the wax with a paddle or crutcher but in this way uniform results are never sure. If it is desired to cool the wax rapidly, the steam jacket should circulate both steam and cold water. A separate kettle for the melting of the waxes in addition to those already indicated is very desirable. Operating in this manner the mixing kettle can be in constant use without the necessity of waiting until the wax is molten and this considerably steps up the production.

In many cases colloid mills are used to improve the wax emulsions. They are not a cure-all for improperly made emulsions. They do, however, re-emulsify any large particles of wax into smaller particle size and in this way make a smoother emulsion which, when applied to a surface, has a tendency to increase the gloss by laying down smoothly. The particle size of a good liquid wax is generally much smaller than can be produced by the use of a colloid mill. As this equipment is rather expensive it may be said that small producers of liquid wax need not consider such equipment if they will pay careful attention to other manufacturing details as well as the construction of their agitating kettle, mentioned above.

Black iron may be used in constructing the equipment, though if a light-colored wax is desired, stainless steel or glass lining is advisable. No attempt is made here to offer a layout showing arrangement of equipment. It need only be pointed out that the apparatus works most economically by using four floors. This results in gravity flow. On the fourth floor the waxes are molten, the gum solution is made, and the water is heated and weighed. The third floor is used for agitating and putting wax through the colloid mill, the second floor is used for storage tanks and the first floor for filling and finishing operations. By using mezzanines it is quite possible to get along with two or three floors. In operating on one floor, pumping is necessary and this is troublesome and requires more labor.

Liquid wax has a tendency to foam during filling. For this reason if vacuum filling equipment is used, strict attention should be paid to the type of vacuum tube used. Manufacturers of vacuum filling equipment construct special tubes for foaming products. If these are used it cuts down the difficulties ordinarily confronted with vacuum filling equipment. When syphon filler machines are used, there is very little difficulty occasioned with foaming. Another inexpensive type of filler which may be successfully used, where production is not too large, is the type through which the fluid wax is weighed as it flows into the can and the flow cut off accurately by an electric switch when proper weight has been filled. This type of inexpensive unit can be operated in tandem with a very good rate of speed—that is, up to 50 cans per minute, the can size being either 1 pint or ½ gallon.

Manufacturing Operations

IN DESCRIBING the methods of making liquid waxes we will refer to typical formulae for a T.E.A. Wax, a Morpholine Wax and an A.M.P. Wax. These formulae are by no means fixed as they are presented merely as guides to describe the methods of putting them together. Much the same procedure is used for the emulsions made with the different amines but it is desirable to enlarge somewhat upon the directions in changing from one formula to another. Numerous combinations of waxes, resin solutions or dispersions and proportions of amines are possible. We cannot begin to present the many formulae which may be compounded through various combinations and percentages of solids. The percentage of wax may be easily varied by using more or less water than that specified in any of the formulae.

A typical formula for a T.E.A. Wax is:

150	lbs.	Carnauba Wax
17	lbs.	Red Oil
25	lbs.	Triethanolamine (T.E.A.)
11½	lbs.	Borax
950	lbs.	Water

To which is added in solution

25	lbs.	Bleached Dewaxed Shellac
3½	lbs.	Ammonia 28°
180	lbs.	Water

To put this formula together

(1) Melt the wax which may be any desired grade or mixed grades of carnauba waxes in a jacketed kettle with closed steam.

(2) When the wax is molten add the red oil and T.E.A. stirring very thoroughly in mixing kettle with a wooden paddle or with an agitator with wide blades.

(3) Add the borax, dissolved in 15 times its weight of water. Continue agitation until it is smooth, keeping the mass hot.

(4) Add 40 lb. lots of boiling hot water, intermittently, with good stirring after each addition.

(5) When the mass thins to proper consistency, dilute with rest of the water which may be added cold.

(6) Add the shellac solution to the mixture, after cooling the wax emulsion slightly.

(7) When cooled somewhat further, either run directly to the storage tank or through the colloid mill to the storage tank.

For a fuller discussion of the apparatus and methods of making of T.E.A. Wax, see an article by Glickman[8] which thoroughly describes variations from the usual method used and which illustrates various equipment installations which may also be used for making wax emulsions with morpholine and A.M.P., as well.

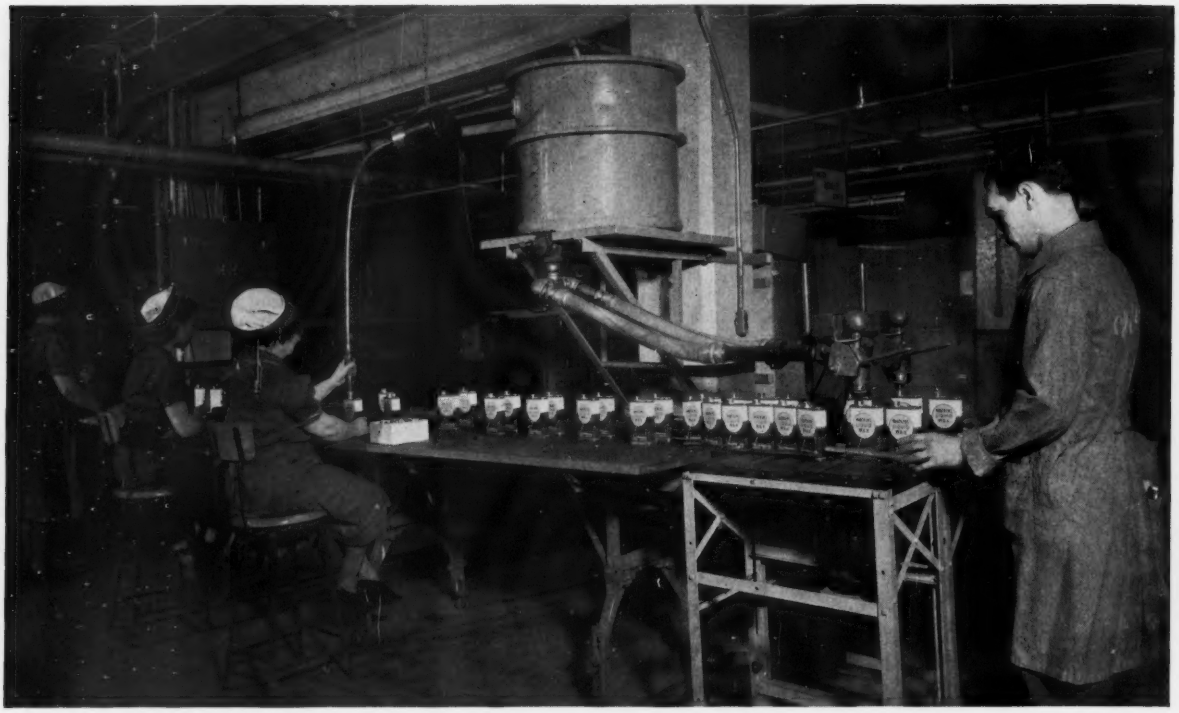
A formula for about 15% nonvolatile matter or total solids in the finished wax of the morpholine type is:

150	lbs.	Carnuba Wax
31	lbs.	Red Oil
19	lbs.	Morpholine
900	lbs.	Water

To which is added a gum dispersion made with

26½	lbs.	Manila Resin (Loba B)
9	lbs.	Ammonia 28°
240	lbs.	Water

[8] *Soap*, Vol. 12, No. 12 (1936) p. 121.



Filling and capping cans, using volumetric filler and hand capper. This equipment set-up handles about forty-five pint or half-gallon cans per minute.

In compounding a morpholine wax it must be stated first of all that to produce a uniform product the procedure must be carefully standardized once it is worked out for the particular equipment used. The volatility of the morpholine and instability of its soaps are apt to cause difficulties unless each batch is carefully made. The manufacturers of this amine, realizing the difficulties of wax makers in this regard, have recently developed a new, rapid, consistent method facilitating use by the addition of a wetting reagent. This method will be made public shortly. Those who are interested in morpholine polishes will probably use this new method, as soon as it is available, rather than the usual one which we outline.

To put together the formula just above proceed as follows:

(1) Melt the wax in a steam jacketed kettle or directly in the agitating kettle with closed steam at 200° F.

(2) Add the red oil and then the morpholine, being sure the mass is well stirred so as to be transparent.

(3) Add 150 lbs. of boiling hot water, gradually continuing stirring until the mass is clear.

(4) As more water is now gradually added, the mass becomes heavier and jelly-like. Care must be taken to incorporate all the water into this viscous mass as it is gradually added, preferably in 5-gallon quantities, stirring the mass all the while.

(5) The mass begins to thin out when about 500 lbs. of the water are in. The rest of the water, as lukewarm water, may now be added in a thin stream, continuing the stirring.

(6) When all the water has been added and the wax emulsion is cooled off to about 140° F., the resin solution, previously prepared, is strained into the mass and it is well mixed.

(7) The resin dispersion is made in a jacketed kettle by adding the 26½ lbs. of Manila resin, ground to about 20 mesh, to the 240 lbs. of water and 9 lbs. of 28° Ammonia and stirring at not over 120° F. until it is in solution. This solution most generally contains insoluble dirt which must be strained before adding to the wax.

(8) When the finished wax emulsion is cooled it may be filled. A colloid mill will help stabilize the emulsion.

An improvement upon a straight morpholine wax is one made by using mannitan monolaurate with morpholine in making the emulsion. The proportions for a liquid wax of this type are:

75 lbs.	Carnauba Wax No. 3
25 lbs.	Carnauba Wax No. 1 (Yellow)
25 lbs.	Red Oil
7¼ lbs.	Morpholine
½ lb.	Citric Acid
5 lbs. 7 oz.	Mannitan Monolaurate
1140 lbs.	Water (Soft)

To make this kind of wax:

(1) Melt the waxes and red oil with dry steam. Add the morpholine and stir until the mass is transparent. Add 5 lbs. of boiling water and continue stirring until water is taken up which is indicated by mass becoming clear.

(2) Now add 5 lbs. of boiling water to the mannitan monolaurate, add to the batch and stir into the mass.

(3) Continue the addition of boiling water in 5-gal. portions with

agitation until about 40 gallons have been added, being sure the mass is well stirred after each lot of water has been added and the water is well mixed into the batch. When approximately 40 gallons are taken up the mass will thin out.

(4) Now dissolve the citric acid in 2 gallons of hot water and add gradually to the mass with agitation to bring it on the free fatty acid side. Add the rest of the water, as cold water, gradually stirring to keep the liquid wax transparent appearing.

(5) Then add the Manila gum dispersion by straining into the mixing kettle which has been previously made in another kettle by dissolving 12½ lbs. of Manila gum (Loba B) in 5 gallons of soft water to which has been added 3½ lbs. of 28° ammonia by stirring well at 120° F.

(6) Mix the batch well until it is homogenous. When cool this liquid wax is ready for filling.

It should be pointed out here that it is possible to incorporate T.E.A. wax emulsion to the extent of about 15% with these morpholine type waxes. This addition does not materially affect the water resistance and somewhat increases the luster. We have also found that the addition of 0.5% of cyclohexanol to the morpholine-mannitan monolaurate wax emulsion results in better brilliance and spreading power. This may be added when the emulsion is cooling.

The use of 2-Amino 2-Methyl 1-Propanol (A.M.P.) to make wax emulsions is less troublesome than with morpholine. Its soaps are about as stable as the T.E.A. soaps due to its higher boiling point, it is easier to handle than morpholine, when heated. The wax emulsions made with it are water resistant. The further advantages lie in its cheaper price and less of it being required as an emulsifier than of morpholine.

A formula for a liquid wax yielding 300 gallons, made with A.M.P. consists of:

240 lbs. Carnauba Wax
39 lbs. Red Oil
10 lbs. 2-Amino 2-Methyl 1-Propanol (A.M.P.)
2065 lbs. Water (248 gals.)
4½ lbs. N-octadecane amide (Stearic Acid Amide)
1 lb. 5 oz. Caustic Soda Lye 36° B.
45 lbs. Manila Resin
8¼ lbs. Ammonia Water 28°
2¼ lbs. Caustic Soda Lye 36° B

To make the finished wax emulsion:

(1) Melt all the wax and 30 lbs. of the red oil in a jacketed kettle at 190°-200° F. and stir in the A.M.P. until mass is clear. Then add the amide.

(2) Add 45 gallons of water at 190° F. in 3-gallon portions, mixing well between each addition. The mass is gelatinous at this stage.

(3) Now add the 21 ounces of lye diluted with 3 gallons of hot water.

(4) Continue the addition of hot water in 5-gallon lots while stirring until the mass thins. This will take about 120 gallons of water.

(5) Dilute the emulsion to 270 gallons with cold water, flowed in gradually with the agitator running.

(6) Stir in the Manila resin dispersion, made by mixing the resin ground to 20 mesh or less in 12 gallons of lukewarm water to which has been added the ammonia and 2¼ lbs. of lye. Soak this for several hours, then add 12 gallons of water heated at 140° F. and stir well until the resin disperses. Strain through a sieve or cheesecloth before adding to the wax emulsion.

(7) Add the remaining 9 lbs. of red oil and stir in well. Bring up to the 300-gallon volume with cold water. When wax is cool it is ready to fill.

Lac, Resin and Casein Dispersions

IN describing the addition of lacs and resins to the liquid waxes we dwelt rather superficially with the lac, resin and casein solutions and dispersions. They are added to give various qualities like non-skidding, increased hardness and wear of the film after application, added luster and reduced cost. Thus they contribute important properties to the wax film.

It has been found that shellac and casein work more favorably with T.E.A. waxes, and Manila resins are the more desirable for morpholine and A.M.P. types. The shellac solution is more effective if added hot and the casein and gums when added cold.

The use of shellac has already been thoroughly discussed and needs no further comment. It is the addition used in the making of the older or T.E.A. waxes, so that most manufacturers have had long experience with it. The Manila resins are more recent in their use. These natural resins especially the Lobas like Manila B, CBB and DBB are finding increased use by some wax makers because they produce good results at a low cost.

One of the distributors for this resin has issued some instructions regarding their use which are worth reviewing. Up to this point we have recommended the dispersion of Manila resin by the use of ammonia. It is possible to use other alkalis as well. As these instruetions point out, borax and ammonia is preferable at times, using three parts of borax dissolved in 50 parts of water and adding 10 parts of powdered resin slowly by stirring. These resins are made more soluble in ammonia or ammonia-borax-water solutions by heating them below their softening temperatures 4 to 5 days. If the resins are ground and exposed to the air at room temperature the same effect is obtained.

To determine the amount of solid caustic soda and of ammonia necessary to dissolve the resins, two equations are given.

For alkali solutions using solid caustic soda, this equation applies:

$$\text{NaOH needed} = \frac{\text{Wt. of resin in gms. x Acid No. x 0.71 gms.}}{100}$$

To determine the amount of ammonia water necessary, use this equation:

$$\text{NH}_3\text{ Water needed} = \frac{\text{Wt. of Resin in gms. x Acid No. x 0.3 gms.}}{1000 \times \%\text{ of NH}_3\text{ in ammonia water}}$$

These resins may also be dispersed in water by the amines as

emulsions. T.E.A. and morpholine are both used for this purpose. A.M.P. will also probably work. If it is desired to more readily disperse the resins, then an alcohol-water solution of them may be used. The soft Manila resins like the WS, MA and MB and the medium hard Lobas dissolve more readily in alkaline solvents than the fossilized types.

In cases where it is desired to use casein instead of shellac or Manila resin dispersions, the solution must be made ahead of time for best results. It may be prepared viz:

150 lbs. Lactic Acid Casein
15 lbs. Morpholine
1550 lbs. Water
7½ lbs. Water

Add half the water to the casein and soak for about 12 hours. Add the morpholine to the rest of the water and add to the casein mixture. Heat to 140° F. and not more than 150° F. Stir until the casein is all dissolved, then add the phenol as a preservative.

This casein solution may be used viz:

25 parts Casein Solution
20 parts Water
100 parts Wax Emulsion (without any other gum or shellac added)

Casein is cheaper than either shellac or Manila gum but must be made up ahead of time. There is a further disadvantage in the danger of its spoiling.

Other additions of this kind are also available. These consist of such substances as gelatin, glue, pontianak, rosin and albumen. They are all quite hard and glossy, like those described in more detail, and are used by different manufacturers.

Specifications and Analyses

UNFORTUNATELY as is so often the case, specifications are at times those of adulteration rather than of quality. Glickman[9] points out the fallacies of various specifications and how they are circumvented. His words, "It would, therefore, appear that the business of supplying products for specification bids goes to the firm capable of producing a product with the greatest degree of adulteration or substitution" should arrest the attention of liquid wax manufacturers. Even the Specification PW-151 issued by the Federal Specifications Board may be met with an inferior type wax.

Fuld[10], as chairman of the N.A.I.D.M. Sanitary Specialties Committee, has presented two very enlightening papers on the question of specifications and physical testing methods of liquid waxes for such properties as gloss, friction, wear, hardness, washability and removal. The difficulties of evaluating these properties are discussed in detail but no definite conclusions are made regarding all these properties.

More recently Jarden[11] has discussed the properties of water emulsion waxes and comes to the conclusion that confidence in the liquid wax manufacturer and actual tests under conditions of use should determine the qualities of the product, these to be confirmed by a recognized and disinterested authority.

A method for analyzing liquid waxes is given in full detail by Fuld and Brumbaugh[12]. Through the brief outline of the schematic system of analysis a complete determination of these products may be made of the water soluble materials, fatty acids and alcohol soluble resins, the petroleum soluble resins, paraffins, waxes and oils, the harder waxes and the amines. It is not our purpose to enter into a discussion of this method except to say that, while there are some details still desirable in making more accurate determinations, it gives the best known general method available at this time.

Conclusion

In this article we have tried to dwell mostly on the actual manufacture of wax emulsions, rather than other details. The liquid wax consumption made by the methods we described or any other method lies in two directions, the home where the housewife is interested in polishing and preserving her floor coverings, table tops, etc., and in the sanitary supply field. In the latter field, in which more expert buying is commonly found than in the home, greater variation of opinion as to a suitable wax is bound to occur. This is borne out by the great amount of material we have referred to as having been published on these details. In the home, however, it is our observation through close contact with the consumer that the housewife evaluates a wax emulsion mainly by appearance. She is interested mostly in ease of application and high gloss without buffing. For this reason it is necessary to watch these details carefully in producing a liquid wax for home consumption.

There is then still room for improvement, but in the comparatively short time liquid waxes have been on the market great strides toward improved products have been made.

[9] *Soap*, Vol. 15, No. 3 (March 1939) p. 90.
[10] Ibid, Vol. 15, No. 1, p. 95.
Ibid, Vol. 15, No. 8, p. 99.
[11] Ibid, Vol. 17, No. 3, p. 90.
[12] *Soap*, Vol. 16, No. 12, p. 119.

Pyrethrin Analysis

During the barium hydroxide treatment in the volumetric assay of pyrethrin, the greater part of the organic impurities are removed. Chrysanthemum monocarboxylic acid solidifies at 10° C. and melts at 18-20° C., whereas the dicarboxylic acid melts at 154° C. No marked loss of either acid is observed during the volumetric process. S. Takei et al. *J. Agr. Chem. Soc.* Japan 16, 389-98; 399-410; through *Chem. Abs.*

Solvents for Moth Control

By means of carbon tetrachloride, trichloroethylene, perchloroethylene, etc., moths can be eliminated from textiles in less than a minute at a temperature of 18-20° C. If the temperature of the atmosphere is much lower, longer exposures are required. C. H. Fischer. *Deut. Wollen-Gewerbe* **72**, 952-3; through *Chem. Abs.*

Garment Fumigation

Moth life can be killed by exposing furs or garments to an equal mixture of ethylene dichloride and carbon tetrachloride in a concentration of 20-25 pounds per 1000 cubic feet of air, for 24 hours at 65 and 75° F. W. L. Nelson. *Natl. Cleaner Dyer* 32, No. 3, 54, 56, 58 (1941).

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TESTS ON CRAWLING INSECTS

EVALUATING LIQUID HOUSEHOLD INSECTICIDES AGAINST THE GERMAN COCKROACH AND BEDBUG,—A FINAL REPORT* ON RESEARCH PROJECT AT OHIO STATE UNIVERSITY

By F. L. Campbell, C. S. Barnhart, and J. M. Hutzel[1]

Ohio State University

THE origin of the work here reported goes back beyond 1937 when certain manufacturers of roach and bedbug liquids began to feel that their products were not being properly evaluated by the Official Peet-Grady test against houseflies. Recognizing this dissatisfaction, the association set up a project with the Ohio State University Research Foundation for the purpose of developing test methods against roaches and bedbugs. Assuming that the Peet-Grady method would not properly evaluate all roach and bedbug liquids (an assumption later justified by the investigations in this project), the association desired a method or methods that its members would be willing to adopt as official and that could be used in specifications for the purchase of roach and bedbug liquids.

The first two years of the work with the association followed by a year of work with certain members of the association resulted in the development of efficient methods for rearing German roaches and bedbugs for test purposes and in the development of a method for making comparative tests of liquid insecticides against these insects. These procedures, not quite in their final form, were published by Woodbury and Barnhart, 1939. During 1939-40 important refinements were made by Barnhart and before the present project started a complete description of his methods of rearing and testing, together with blueprints of his equipment, was submitted to members of the Insecticide Scientific Committee, but was not published. In order to make the present report complete these methods are included.

The present project was undertaken because the Insecticide Scientific Committee doubted that Barnhart's settling mist method gave results representing the relative effectiveness of liquid insecticides as applied in practice against roaches and bedbugs. The committee desired us to develop methods that would involve not only the action of a settling mist but also the action of direct spray, spray residues and vapor from the insecticide. They were interested also in evaluating the stimulatory effect of insecticides in driving roaches out of concealment. Two new methods resulted from this investigation: Barnhart's lard can method and Hutzel's chamber method. Practical experience with the use of both methods is limited but enough has been done to justify description in this report.

Rearing Roaches

Stock cultures of the German cockroach may be maintained in any containers from which the roaches cannot escape. To save space we have generally used chests of drawers, the inside walls of which are lined with celluloid having smooth, rounded corners. The celluloid is lightly coated with a heavy mineral oil to make a slippery surface that the roaches cannot climb. Trays, cans, drums, jars or cages may also be used as containers. Any container having smooth walls may be oiled to prevent escape of roaches and left open at the top. However, as mice may invade open containers and reduce production by eating egg capsules, it is better to cover open containers with cheesecloth or wire screen where mice are present. One should also guard against invasion of the cultures by mites or dermestid beetles.

Shelter, food, and water should be continuously available to the roaches. For shelter loose coils of corrugated paper (codling moth bands) are placed in the containers.

It is most convenient to use a standard dry food that can be scattered over the bottom of the container. We have always used a mixture having the following composition by weight: Ground whole wheat, 50; dried skim milk powder, 45; and dry baker's yeast, 5. Before use this mixture is moistened with water until it forms a crumbly mass which is allowed to dry. The composition just mentioned is not essential, but in our experience it has certainly given good results. Others recommend the use of dog biscuits.

Water is supplied in vials carefully plugged with a loose roll

*Before 27th mid-year meeting, National Association of Insecticide & Disinfectant Manufacturers, Chicago, June 9 and 10, 1941.

[1]This N.A.I.D.M. research project extended from June 1, 1940 to March 31, 1941. It was a resumption of a project that ran from July 1, 1937 to June 30, 1939. All this work was under the immediate supervision of Dr. F. L. Campbell, acting in consultation with the Insecticide Scientific Committee of the National Association of Insecticide and Disinfectant Manufacturers. In the present project, C. S. Barnhart was the investigator from June 1, 1940 to September 30, 1940; J. M. Hutzel from October 1, 1940 to March 31, 1941. This report, chiefly in the form of a motion picture, was presented by F. L. Campbell before the 27th annual summer meeting of the N.A.I.D.M., Chicago, June 9, 1941.

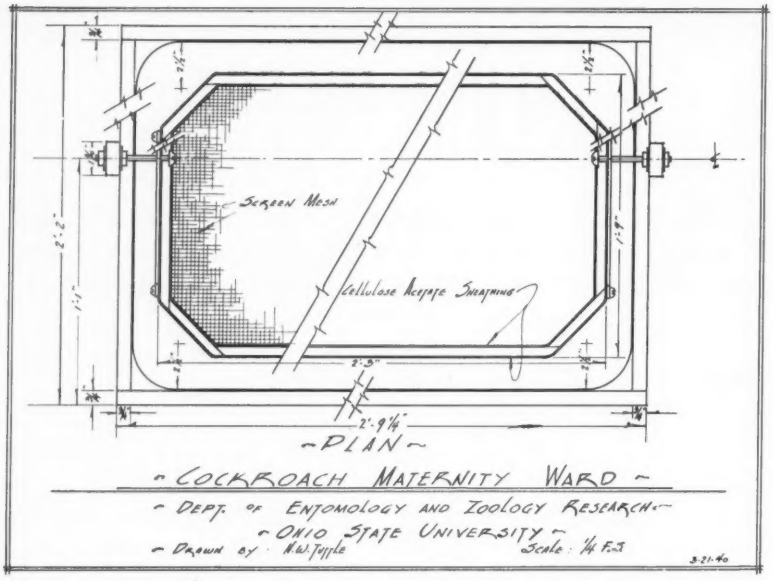


Fig. 1—Maternity ward for isolating newly hatched German roaches.

of cellulose wadding. This plug prevents the water from running out when the vial is placed on its side and provides a soft, wet drinking surface. This wet surface remains as long as the water lasts in the vial, because air pressure forces the plug into the vial as the water recedes. Several such vials are placed in large containers. Because the food does not mold and the water supply lasts a long time, the containers need cleaning and replenishing of food and water only at infrequent intervals.

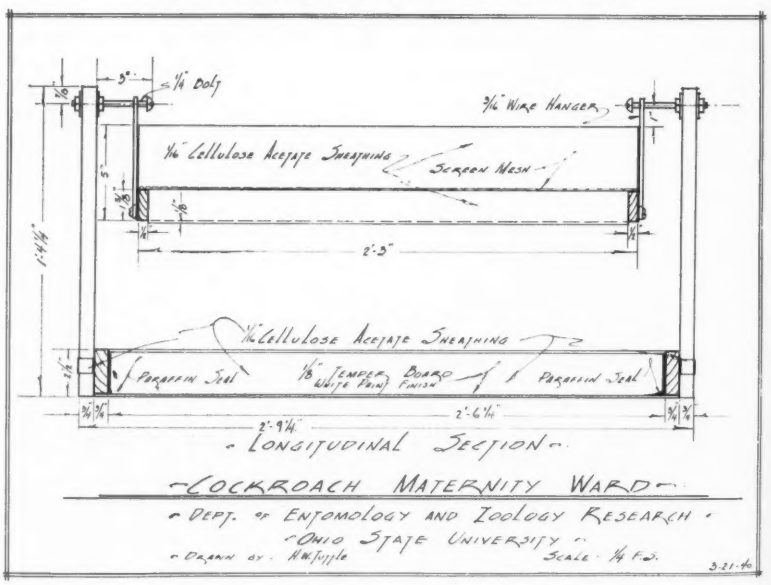
Newly hatched German cockroaches are obtained for tests or for dated rearing as follows: Roaches of all sizes are removed from the stock culture containers by shaking the shelter bands over a large, oiled crystallizing dish. This dish is then placed in the freezing compartment of a household electric refrigerator until the roaches are immobile (about 8 minutes). Adult females bearing egg capsules are then picked out of the mass of roaches with light forceps and are placed in a screen bottom tray (maternity ward) shown in Figure 1. The other roaches are returned to the stock containers. The maternity ward, in which the adult females are isolated, is provided with food in lumps and water in vials as in the stock containers, but the females must do without shelter in order that the newly hatched roaches may be automatically segregated and concentrated.

The maternity ward rests upon four tight coils of codling moth bands (4 inches diam.) which are placed upon the solid, white-painted floor of a larger similar tray. When roaches hatch, they cannot find shelter in the maternity ward and therefore pass through the meshes of the screen bottom and enter the corrugations of the codling moth bands below. Thus at any time practically all the young roaches are to be found in the bands in the lower tray. To obtain young roaches of known age, it is necessary only to suspend the maternity ward above the lower tray (Fig. 2) and remove the bands containing the young roaches. By tapping the bands above an oiled crystallizing dish, the young roaches can be easily collected and counted out for tests.

If older roaches of known age are needed for tests, the bands containing young roaches are simply placed in one-half gallon oiled glass jars containing food and a vial of water, one band per jar. These jars are dated, covered with cheesecloth and set on a shelf where they need no further attention except to replenish water when necessary. There, if desired, the roaches can be allowed to develop to maturity (a period of about 5 to 6 weeks at about 80° F.) or they can be used at any earlier age.

The age of roaches placed in the jars can be controlled within any desired limits by the frequency of collection from the maternity ward. As we usually collect young roaches every day and make sure that no young roaches are left in the maternity ward after the bands are removed, we can state that the individuals in each culture are not over 24 hours old at the start.

Fig. 2—Maternity ward suspended above lower tray.



It is well to point out here that the rate of production of German cockroaches per unit of rearing space and per man-hour of labor is much less than that of houseflies. Although we use two maternity wards containing at all times more than 1000 females in each, we have never had more test roaches than we could use; on the contrary we have often been embarrassed by lack of test insects. Our production of young roaches has averaged about 10,000 per month. Any laboratory contemplating continuous use of roaches as test insects, should devote at least one room, say 10 ft. by 14 ft., to roach rearing and should build up a large population of roaches before using any for test purposes.

It is desirable that the roach rearing room contain plenty of shelves and drawers and be held at a controlled temperature of about 80° F. and 60 per cent relative humidity.

Rearing Bedbugs

All rearing operations are done in a small room on a 4 ft. by 6 ft. white painted table which is surrounded by a water-filled moat. The cages containing the bugs are kept upon this table within the moat, which escaped bugs cannot cross.

Only one type of cage is used; i. e., a 5½-inch half Petri dish covered with 60-mesh white organdy cloth stretched over and cemented into a 6-inch metal embroidery hoop. This cover is held tightly upon the dish by a pair of heavy rubber bands. Pieces of blotting paper 3 inches square are placed in all dishes of bedbugs to serve as shelters, to provide a place for egg laying, and to absorb the liquid that is copiously excreted after feeding.

All bedbugs, except the first instar nymphs that are to be used in tests, are fed upon the bellies of rabbits once a week. Six large female rabbits are used for this purpose, two each week so that a given rabbit comes up for a blood transfusion every three weeks. Female rabbits are preferred because they are more amenable to handling than males.

On a feeding day the first step is to tie a rabbit upon its back on the rack shown in Figure 3. Two racks, which always stand upon the bedbug table are used at the same time. A rabbit is brought into the bedbug room, held by the scruff of the neck, and seated upon one end of the rack. Looped cords attached to small windlasses are slipped over the hind legs with the free hand and tightened by winding them on the windlasses. Then the rabbit is lowered upon its back and cords from the eyelets at the other end of the rack are secured to its front legs. The next step is to clip the hair from the bellies of the rabbits. Barber's hand clippers have been used satisfactorily, but electric clippers do a better and faster job. After having been clipped, the rabbits are ready to receive the bedbugs.

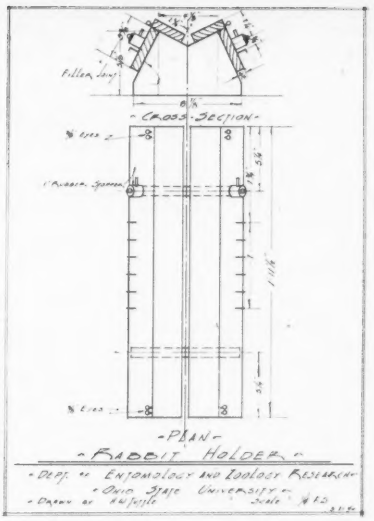


Fig. 3—Rack for tying rabbit on its back.

The bugs are fed without removing them from the cage, which is simply laid on the belly of the rabbit with the organdy cloth in contact with the skin. The cage is held firmly against the belly by a large rubber band stretched across it and attached to hooks on both sides of the rack. Bedbugs of all instars are quickly attracted to the warm skin of the rabbit and insert their beaks through the meshes of the cloth into the skin, pumping themselves full of blood in a remarkably short time,—not more than 15 minutes. On a large rabbit, two cages, each containing from 500 adult bugs to 2,000 young bugs can be fed at the same time. As many as 20 cages of bugs have been fed on one rabbit in a two-hour period without adverse effect on the animal.

The remainder of the rearing procedure may be described as follows, starting with egg laying cages each containing about 500 adult bugs: Just preceding the weekly feeding the contents of all the egg laying cages are dumped into a single large crystallizing dish. The squares of blotting paper on which the eggs have been deposited are arranged in a pile on one side of the dish. These squares are held with forceps one at a time, supported on an inverted 3-inch Petri dish within the same crystallizing dish, and eggs are loosened with a stiff bristled brush and swept into the crystallizing dish. As the papers are cleared of eggs, they are laid in another pile in the dish. Thus when the last paper has been freed of eggs, the bugs have nearly all crawled back onto the papers, which are then distributed among the individual cages. The eggs are then separated from the dead bugs, trash, and the few remaining live bugs by pouring the remaining contents of the large crystallizing dish onto a 16-mesh sieve through which the eggs fall into a clean dish. These eggs, or the nymphs hatching from them, may be used for testing purposes. If not needed, they may be added to the stock culture. Newly hatched bedbugs become adults in about five weeks at 80° F.

A stock culture of bugs is kept in the regular cages. The only attention these cages of bugs receive is a weekly feeding, an occasional renewal of the blotting paper squares, and transfer to clean cages with thinning out to avoid overcrowding. Since eggs are not separated from these dishes, bugs of all ages are present. The adults are transferred to egg laying cages only when their eggs are needed to produce newly hatched test insects.

The rate of bedbug production has been less than half that of German cockroaches and has still more often failed to supply our demand for test insects. We do not attribute this difficulty to the method described

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above, but to the use of bedbugs for test purposes at a rate exceeding the rate of replenishment of the culture by reproduction. A large initial population and careful management are needed if continuous testing is to be done. It would be well to have one competent person devote half time to the care and feeding of the bugs and rabbits. A separate room is not needed for bedbug culture, but the room in which the bedbug table is placed should be air conditioned as recommended for the cockroach room.

Settling Mist Method

THE settling mist method, about to be described, has been used in our laboratory since the summer of 1939. It is the method by which samples of liquid insecticides are being tested by us for conformity to specifications of the State of Ohio, pending the adoption by the N.A.I.D.M. of an official test method for crawling insects.

Equipment. The spray tower used for the controlled application of a settling mist to the test insects is shown in detail in Figure 4. Section B-B gives the best general picture of the equipment. The following description of the features of this spray tower is based on this section, beginning at the top:

The atomizer holder mounted upon the cover of the cylinder carries a DeVilbiss Numograph artists' air brush, type AEN-601 (not shown in Figure 4). The ¾" x ⅜" recess next to the central hole in the cover of the cylinder accommodates the cup of the atomizer, permitting the nozzle of the atomizer to be set flush with the surface of the cover. Under the central hole in the cover is a circular aluminum plate or shutter connected with the wing lever shown to the right of the atomizer holder in section C-C. By moving the lever the aluminum plate is made to cover or uncover the central hole.

The spray cylinder consists of two concentric celluloid (cellulose acetate) cylinders with an annular dead air space between them. This double wall construction is primarily for insulation of the inner 8-inch cylinder. Without such insulation, temperature gradients outside a single walled cylinder may cause convection currents in the mist filling the cylinder and prevent it from settling uniformly. Moreover, the double wall construction makes a more rigid spray cylinder.

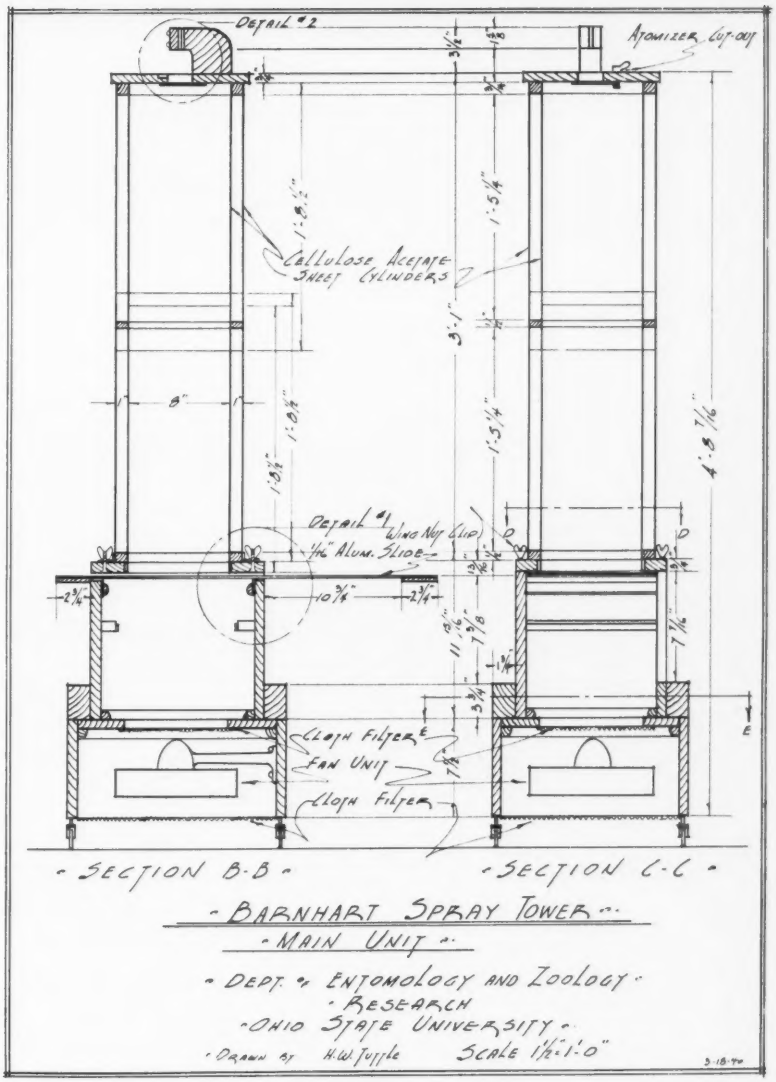

Fig. 4—Barnhart settling mist tower.

When set up for operation the cover is never removed from the cylinder nor is the cylinder removed from its base. The fit of the cover on the cylinder and of the cylinder on its base is air-tight. For convenient transportation provision is made for removal of the cylinder from its base by removing the wing nuts and lifting the cylinder.

Immediately below the spray cylinder is the compartment for a drawer holding the cage or dish containing the insects to be treated. Between this compartment and the base of the cylinder is an aluminum slide. When the slide is pushed all the way over to the right, the cylinder is closed and the insects below are protected from mist in the cylinder. When pushed all the way over to the left, the hole in the slide comes under the cylinder, exposing the insects to the settling mist.

The drawer for holding the insect container is shown in detail in Figure 5. It is much deeper than needed for the small container now

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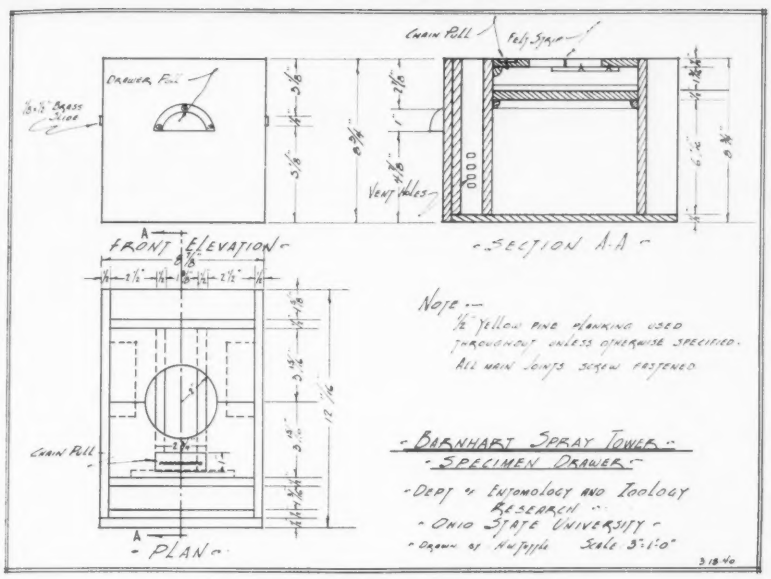

Fig. 5—Drawer of Barnhart settling mist tower.

being used and was made oversize to accommodate larger containers, if desired. For this reason the drawer has a false bottom, shown in section A-A.

The insect container now used is assembled from two parts: (1) a base of window glass cut in octagonal form and covered with a layer of flannel and a circle of filter paper; (2) a low cylinder consisting of a ring of celluloid, 1 inch wide, inserted in a 4-inch metal embroidery hoop. The embroidery hoop is placed on the circle of filter paper and is held snugly against the paper by special metal clips extending from the hoop around and under the glass plate. The resulting assemblage has the general appearance of a crystallizing dish. When the celluloid ring is lightly oiled, young roaches placed in this container cannot escape and it is therefore unnecessary to cover the container with wire screen.

In order to center the container just described under the spray cylinder, the drawer is provided with a cover having a central hole of the same diameter as the celluloid ring of the container. The cover is cut through the middle and the front half of it is removable. To insert the container the drawer is pulled out, the front half of the drawer cover removed, the container placed on the false bottom and pushed forward against the half circle of the hole in the fixed back half of the cover, and the front half replaced. Looking at the top of the drawer, one then sees the container as a shallow well in the cover of the drawer. The top of the container is flush with the surface of the cover. The aluminum slide moves directly upon and across this surface.

Below the drawer compartment is a ventilating and mist filtering compartment, covered on top and bottom with a cheesecloth filter and containing a household type fan for ventilation. When the spray clyinder is opened, the drawer pulled out, and the fan turned on, mist in the cylinder is quickly pulled into the filter compartment where it is retained. One can therefore rear insects and make tests in the same room, if desired. This ventilation also tends to evaporate oil on the inner walls of the spray cylinder, preventing accumulation and run off of oil. Because of ventilation and evaporation of oil, and because no oil but a fresh settling mist ever reaches the insect container, it is not necessary to wipe any part of this apparatus no matter how frequently it is used.

This spray tower is a self contained unit. It can be used in any spot within reach of a compressed air line and an electric outlet. To make it mobile within a room, castors are placed on the base and to fix it firmly on the chosen spot, door stops are provided.

Five units, like that here described, have been made by Barnhart; two for our laboratory and three for certain members of the N.A.I.D.M. Cost of labor and materials, exclusive of the atomizer, is about $60. Blueprints showing all details of construction can be obtained through the secretary of the N.A.I.D.M.

Roach procedure. The following is a description of the procedure used for evaluating a series of, let us say, ten samples of liquid insecticides vs. the O.T.I. against first instar German cockroaches.

Newly hatched roaches are collected in a crystallizing dish as described above. They are brought to the testing room and distributed in lots of approximately 100 in each of 11 insect containers described above. Transfer of roaches from the crystallizing dish to the small containers is easily accomplished by inserting a piece of paper into the dish and allowing roaches to crawl upon it. They are counted as they are brushed from the paper into the container. Each sample of insects is therefore a random sample from a large population. The containers with roaches are set out on the table to be used in random order.

The reducing valve of the air line is set so that the gauge will show 20 pounds pressure when the atomizer is spraying. The performance of the atomizer is then checked by attaching a 1 cc. graduated pipette horizontally to the liquid inlet of the atomizer. The open end of the pipette is bent down at a right angle so that it can be dipped under the surface of the O.T.I. in a small beaker. The valve of the atomizer is opened and the O.T.I. is drawn into the pipette, filling it. Then with stop watch in hand the contents of the pipette are sprayed into the cylinder and the delivery timed between the 0 and 1 cc. marks on the pipette. The atomizer is set so as to deliver 1 cc. in 5 seconds when operating properly at 20 pounds pressure. Performance of the atomizer is checked frequently in this way.

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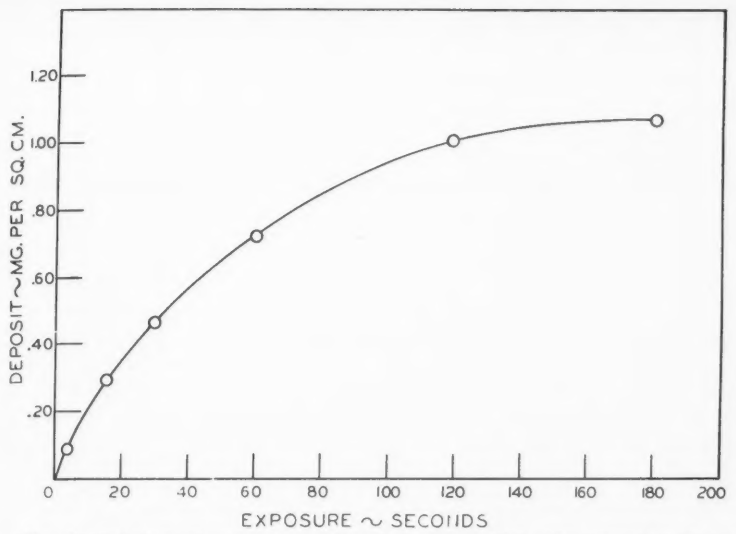


Fig. 6—Relation of exposure to deposit in insect dish after spraying 15 sec. (.2 cc./sec.) and pausing 20 sec.

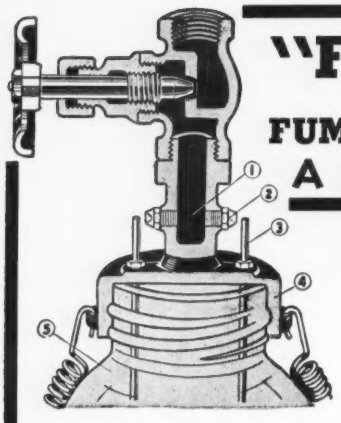
After ventilation of the spray cylinder, the first roach container is placed in the drawer, the drawer closed, the slide closed, and the shutter under the top hole is left open. From 3 to 4 cc. of the sample to be tested is poured into the cup of the atomizer and the cup is attached to the liquid inlet. One is then ready to make the application. With stop watch in hand the liquid is sprayed into the cylinder for five seconds and then the shutter is swung under the top hole closing the cylinder. A pause of 15 seconds is allowed for the air currents in the mist-filled cylinder to subside. Then the slide is pushed over, exposing the insects below to the settling mist. Their behavior can be easily observed through the cylinder. At the end of seven seconds exposure the slide is closed again, the drawer pulled out, the roach container removed, the cylinder opened again top and bottom, and the fan turned on to ventilate the cylinder. The liquid remaining in the atomizer cup is poured out, the cup rinsed in carbon tetrachloride, dried, and filled with the next liquid to be applied. One is then ready to go ahead with the next application as just described. The time required to carry out all steps in a single application is about two minutes. In this case 11 applications would be made one after the other.

The O.T.I. and any other reasonably good insecticide containing a paralytic toxicant will paralyze the roaches. After becoming paralyzed the roaches in a test container are transferred to a circle of cheesecloth held taut in a 7-inch embroidery hoop laid cloth down upon a table. The transfer is easily accomplished by taking the test container apart, lifting over the cheesecloth the circle of filter paper bearing the roaches, and tapping them from the paper to the cloth, distributing them well over the surface. The roaches on the cheesecloth are then covered with a 6-inch half Petri dish and are counted, the number being recorded on the dish. They are then set aside without food or water for about 24 hours in an incubator at 77° F. and 40 per cent relative humidity. At the end of this time mortality counts are made without disturbing the roaches. Those that walk upon the cheesecloth are called alive; those that do not walk, whether dead or not, are called dead, because our observations have shown that roaches incapable of locomotion will soon die. Moribund and dead roaches are usually found upon their backs. The cheesecloth circle is halved with a pencil line to facilitate counting.

The number of tests that can be run in a day is usually limited only by the insect supply. It is important to run in succession all samples in a series to be compared with the O.T.I. and with each other and to replicate these tests on the same or on subsequent days. In our tests an effort was made to test each sample at least 10 times and to use about 1,000 roaches for each sample. Results with the O.T.I. vary considerably from day to day, but as pointed out in the paper by Woodbury and Barnhart, we believe that our variation is not greater than that generally encountered in the Peet-Grady method and we know that we have gotten consistent average results with respect to concentration and composition of samples that were "unknown" at the time of testing.

The time figures given above for spraying, pause, and exposure are the combination that should usually give about a 50 per cent kill with the O.T.I. against first instar cockroaches. In terms of deposit of O.T.I. per sq. cm. on the bottom of the roach container, this combination is equivalent to 0.08 mg. of O.T.I. per sq. cm. as determined by reweighing microscope slides exposed to the settling mist. (To prevent error from evaporation of oil the slides are stacked immediately after exposure with the oil deposit sandwiched between slides and are then weighed.) Very smooth curves have been obtained showing the relation between period of exposure and deposit when the time of spraying and pause are held constant, for example, see Figure 6. When it is desired to raise or lower the dose of O.T.I. it is done by changing period of exposure only, in accordance with the exposure-deposit curve just mentioned.

It should be borne in mind that the deposit obtained with a given concentration of time of spraying, pause, and exposure will depend on the viscosity of the oil. Most oil bases used in liquid household insecticides are of about the same viscosity and will spray out of the test pipette in the same time as the O.T.I. To be safe it would be well to check the spraying time of 1 cc. of all samples. A sample differing markedly in viscosity from the O.T.I. should be given a different exposure time that will yield the same deposit as that of the



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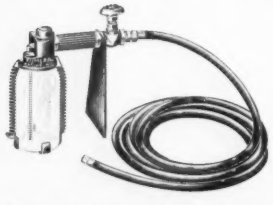

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O.T.I., or the atomizer may be adjusted to deliver the same volume of the more viscous liquid in the same time.

Bedbug procedure. Newly or recently hatched nymphs are removed from the cage in which they hatched in the same manner as were the newly hatched roaches; i. e., by permitting them to crawl up upon paper. The bedbugs are counted as they are brushed from the paper into the test container. This container is a 1⅝" (inside diameter) Petri dish with the bottom snugly covered with a circle of 4.25 cm. filter paper. As the bugs tend to cling to this filter paper, no oil need be used on the walls of the dish to prevent them from climbing out. Not more than 50 bugs are placed in each dish, the number per dish depending on the number of bugs available and the number of samples in the series to be tested against the O.T.I. All dishes for a series of tests are made ready before the applications of the insecticides are begun. Applications are made in the spray tower by the procedure previously described, one or two of the small bedbug containers being placed in a cockroach container in the drawer of the spray tower. As first instar bedbugs are more susceptible to the O.T.I. than first instar German cockroaches, a dose of only .04 mg. per sq. cm. is needed. This was obtained by spraying five seconds, pausing 40 seconds, and exposing five seconds. After treatment the glass covers are replaced on the dishes, which are placed in the same incubator where the treated cockroaches are kept overnight. It should be noted that the bedbugs are kept for observation in the dish in which the mist settled on them. This is done purposely to add the effect of additional contact with the treated filter paper to that of the direct effect of mist on the bugs.

Mortality counts are made the next day in a very simple manner. A dish is inverted over a piece of paper and tapped. The dead bugs fall out upon the paper while the live bugs remain clinging to the filter paper in the bottom of the dish. As the total number of bugs in the dish is already known, either the dead or the living may be counted.

Table 1. Difference Between Average Mortality Produced by Sample and O.T.I. (P = pyrethrum, S = synthetic)

Sample No.	Toxicant	Houseflies	Cockroaches	Bedbugs
1	P + S	+25	+25	+ 9
2	P + S	+21	+27	+ 3
3	P + S	+21	+20	0
4	P + S	+23	+17	+ 6
5	P + S	+20	+30	+ 8
6	P + S	+30	+14	+ 5
7	P + S	+31	+21	+ 2
8	P + S	+33	+15	+ 7
9	P + S	+26	+10	+ 5
10	P + S	+38	+ 6	+ 3
11	P + S	+45	+ 5	+ 4
12	P + S	+38	+ 4	+ 1
13	P + S	+38	+12	+ 4
14	P + S	+39	+ 6	— 2
15	P + S	+37	— 7	+ 1
16	P + S	+24	—30	— 9
17	S	+33	—48	—23
18	S	+17	—48	—35
19	S	+ 8	—50	—32
20	S	—14	—52	—25
21	P + S	+10	—32	.....
22	P	+21	+17	.....
23	P + S	+ 2	— 6	0
24	S	+34	— 5	+58
25	S	+34	—43	+ 9
26	S	+25	—20	+56
27	S	+25	—56	—11
28	S	+ 3	—56	+14
29	S	+ 3	—66	—32
30	S	0	—76	—39

Evaluation. Unknown samples of roach and bedbug liquids are rated as illustrated for houseflies on page 199 of the 1941 Blue Book of *Soap and Sanitary Chemicals;* i. e., the rating of an unknown is represented by the average kill produced by the unknown minus the average kill caused by the O.T.I. In our roach and bedbug tests the numbers of replications are greater and the total number of insects smaller (about 1,000 for roaches and 500 for bedbugs) than in the large group Peet-Grady method.

Examples of results obtained on samples that had been tested by the Peet-Grady method are given in Table 1. They show that synthetics that are better than the O.T.I. against houseflies by the Peet-Grady method are often poorer than the O.T.I. against roaches and bedbugs by the settling mist method described above. In general the samples tested have a lower rating against roaches and bedbugs than against houseflies. Striking exceptions to this generalization are to be noted for samples 21, 26, and 28.

(To Be Concluded)

A chemical which can be incorporated with paint to prevent mildew or mold on painted surfaces, has been announced by the Carolina Aniline and Extract Co., Charlotte, N. C. The compound, known as Mert ZT, is added to paint in the proportion of 1:8. It is said to be odorless, nontoxic to humans, and to have no effect on the color or working powers of the paint. *Textile World,* p. 95, June, 1941.

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Emulsifiable Disinfectant

A disinfectant preparation that emulsifies readily when mixed with water, to form a permanent emulsion, consists of 75 per cent of tar-acid oil containing 15-18 per cent of phenolic compounds, 11 per cent of an oil-soluble sulfonate produced by treating a mineral oil with sulfuric acid, 4 per cent of mineral oil, and 10 per cent of isopropyl alcohol. R. Schuler and F. M. Archibald, to Stanco, Inc. U. S. Patent No. 2,228,407.

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NEWS...

A. S. Boyle Co. Buys Keefe Co.

A. S. Boyle Co., Jersey City, parent company of American Home Products Corp., recently purchased Keefe Chemical Co., Boston, and is now producing "Silver Germicide" in its Jersey City plant.

Form L. A. Insecticide Firm

Pacific Intesecticides, Inc. has just been organized at Los Angeles with a capital stock of 100 shares, no par value, by E. N. Rosenfeld, Gertrude Driver and Chester C. Kempley, all of that city.

Hysan Opens New Factory

Hysan Products Co., Chicago, manufacturer of sanitary supplies and floor maintenance products, has just opened a new four-story factory and laboratory at 58 E. Cullerton St. The new structure, which is three times the size of the company's original plant at 2560 Armitage Ave., is located close to Chicago's rail shipping center. New manufacturing equipment and modern laboratory facilities are installed in the new Hysan quarters.

Cal-Western Moves Plant

Cal-Western Manufacturers, Inc., Los Angeles, recently moved to 1512 Hillhurst Ave. for additional manufacturing space for "Whee" household liquid cleaners, furniture polish, floor and furniture wax.

Wickersham White Tar Mgr.

R. C. Wickersham, assistant sales manager for Koppers Co., tar and chemical division, Pittsburgh, has just been appointed general manager of White Tar Co. of New Jersey, Inc., Kearny, N. J., a Koppers subsidiary. Under Mr. Wickersham's management, the White Tar company will broaden its activities in the production of chemicals from coal and increase its facilities for the merchandising of Koppers chemical products in the small-package consumer field.

R. C. WICKERSHAM

Mr. Wickersham, a graduate of Lehigh University, joined Koppers in 1916, and except for three years between 1920 and 1923 has been with the company ever since. He was appointed assistant sales manager in 1937.

Arizona Supply Co. Moves

Arizona Janitor Supply Co., Phoenix, Ariz., formerly at 307 North First St., moved last month to a new address at 30 South Third Ave.

U. S. Entomologist Dies

Lee A. Strong, 54, for seven years chief of the United States Bureau of Entomology and Plant Quarantine, died last month in Madera Canyon, Santa Rita Mountains, Ariz., where he was engaged in research. Mr. Lee had made a life-long study of entomology. A native of Iowa and educated in Nebraska public schools, he became horticultural inspector of Los Angeles County at the age of 24. He went to Washington in 1929 as chief of the Bureau of Plant Quarantine and in July, 1934, when the department was consolidated with that of Entomology, he was named to head the two divisions. His chief problem throughout his government service was the eradication of the Japanese beetle first discovered in New Jersey in 1916.

Brocker Absorbs Walco

Brocker Chemical Co., Morganville, N. J., manufacturing chemists, have just taken over the business of Walco Products, Inc., New York.

Empire Soap Co. Moves

Empire Soap & Chemical Co., Minneapolis, formerly located at 901 Ninth St., S. E., has just moved its offices to 113 Plymouth Ave.

U.S. at Chicago Purchasing Show

U. S. Sanitary Specialties Corp., Chicago, participated in the trade show conducted in connection with the recent Chicago convention of the National Association of Purchasing Agents. Liquid and powdered soaps, disinfectants and cleaning compounds were shown. J. H. Clark, sales manager, and his assistant, I. I. Wood, explained the company's "Soaperior" gravity tank system for dispensing liquid soap in factory and office building washrooms. "All the soap you need for less than one cent per man per week," is the claim made for this equipment which has been on the market twenty years.

Chemical Show Dec. 1-6

The 18th Exposition of Chemical Industries, embracing raw materials, machinery and products, is scheduled to be held December 1-6 in Grand Central Palace, New York. More than 40,000 persons allied with the chemical industries registered at the last Chemical Exposition which was held in New York two years ago. An even larger attendance is expected this year.

Irving Supply Co. Moves

Irving Supply & Equipment Co., Minneapolis, formerly at 316 S. 7th St., recently moved to new quarters at 700 Sixth Ave.

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Offer New Carnauba Substitute

F. W. Steadman & Co., 59 Pearl St., New York, recently organized by F. W. Steadman, formerly with Lenape Trading Co., New York, are manufacturing a new substitute for carnauba wax. The product, "C-V Wax," is described as a brown wax, 100 per cent vegetable in origin, with a melting point of 170 to 175 degrees. The new firm is also dealing in natural waxes as well as acting as selling agents for "Utah Wax" produced by the Ozokerite Mining Co., Soldier Summit, Utah, and Grand Rapids, Mich. The latter is offered as a replacement for montan wax.

New Union Oil Wax Plant

Production of fully refined petroleum waxes to be marketed under the "Aristo" trade name was started early this month by Union Oil Co. in a new plant located on San Francisco Bay at Oleum, Calif. High tensile strength and small crystalline structure are points claimed for the new products. They have melting point ranges of 145-150 F.—AMP, and 160-165 F.—AMP. The new products will be marketed in the eastern territory by Petroleum Specialties, Inc., New York.

Alexander Wins Salesmen's Golf

Charles Alexander, of Seldner & Enequist Chemical Co. won the low gross prize and Henry Herrmann, of General Dyestuff Corp. took low net honors at the initial outing of the Chemical Salesmen's Association, at the Bonnie Briar Country Club, Larchmont, N. Y., June 10. Approximately 80 members and guests participated. Class B low gross winner, E. W. Biedermann, of Mutual Chemical Co.; low net, G. C. Gore, of the Enequist Co. Class C low gross winner was M. S. Barker, of Magnus, Mabee & Reynard; low net, James DeVere, of Philippine American Drug Co. N. B. Conley won the low gross prize for guests, and R. A. Nelson took the low net award.

The next salesmen's golf tournament will be held July 8 at the Plandome (N. Y.) Golf Club. The August 12th meeting will be at the Montclair (N. J.) Golf Club, and the last meeting of the season will be held September 6 at Buckwood Inn, Shawnee-on-Delaware, Pa., during the special 20th Anniversary Outing scheduled for September 5-6-7.

Insect Pests of Grains

The control of insect pests infesting stored grains and cereal products is covered in a mimeoprinted book, "Insect Pests of Stored Grains and Grain Products," just published by Burgess Publishing Co., Minneapolis. Grain losses through the depredations of insects amount to a yearly total of $300,000,000, according to the author, Richard T. Cotton, who shows how the insects can be combatted through a knowledge of their life histories, habits and environmental needs. The book is priced at $3.00 a copy.

Insecticide Industry Expenses

Establishments accounting for 71.3 per cent of the total production value of insecticides, fungicides, and related industrial and household chemical compounds reported capital expenditures for plant and equipment for 1939 amounting to $1,430,436, according to preliminary figures compiled from the returns of the 1939 Census of Manufactures taken in 1940 and released recently by the Bureau of Census, Department of Commerce. The major portion of the expenditures represented purchases of new machinery valued at $827,048. The cost of new construction was reported as $474,870; $120,721 was spent for plant and equipment in a "used" condition and land.

Trask Enlarging Chicago Plant

Arthur C. Trask Co., chemical and fat dealers, are remodeling and enlarging offices at their Chicago plant at 4103 S. LaSalle St. Additional manufacturing capacity is also being provided.

Stone Chemical Moves

Stone Chemical Co., Chicago, sanitary chemicals, has just moved from 1509 S. Michigan Ave., to new quarters at 1325 S. Michigan Ave.

Expello in New Plant

Expello Corp., Dover, N. H., manufacturer of cleaning products, is moving into larger quarters on Third street, that city, where the major part of the company's manufacturing will be done. The new plant, formerly known as the Beckwith Baking Co. building, which provides about 27,000 square feet of floor space, is considerably larger than the company's old Fourth street headquarters. Products manufactured by Expello include "Elf Cleaner," "Vanish," "Auto Wash Sponge Glove," "Sprig Spray and Atomizer," a white sidewall tire cleaner and "Expello," the company's original product, which has been on the market since 1928, the year in which the company was formed. The Expello Company employs about 75 people in its Dover plant. In addition to manufacturing for direct sale, the company supplies products to six large vacuum cleaner companies, a large automobile manufacturer and a large oil company. President of the concern is S. Judson Dunaway.

Portage Broom Co. Moves

Portage Broom & Brush Co., Akron, has just moved to 88 E. Mill Street. Former address was 740 Raymond St.

Plan DCAT October Program

More than 25 members of the Drug, Chemical & Allied Trades section of the New York Board of Trade met last month to draw up a program for the section's 6th annual Fall meeting and golf tournament which will be held October 23-26 at the Skytop Club, Skytop, Pa. John J. Toohy, chairman of the section presided. A program similar to that of last year was decided upon.

George H. Lincks Moves

George H. Lincks, importer and distributor of natural gums, resins, waxes, and naval store products, formerly at 123 Front St., where the offices have been located for 15 years, has moved to 155 John St.

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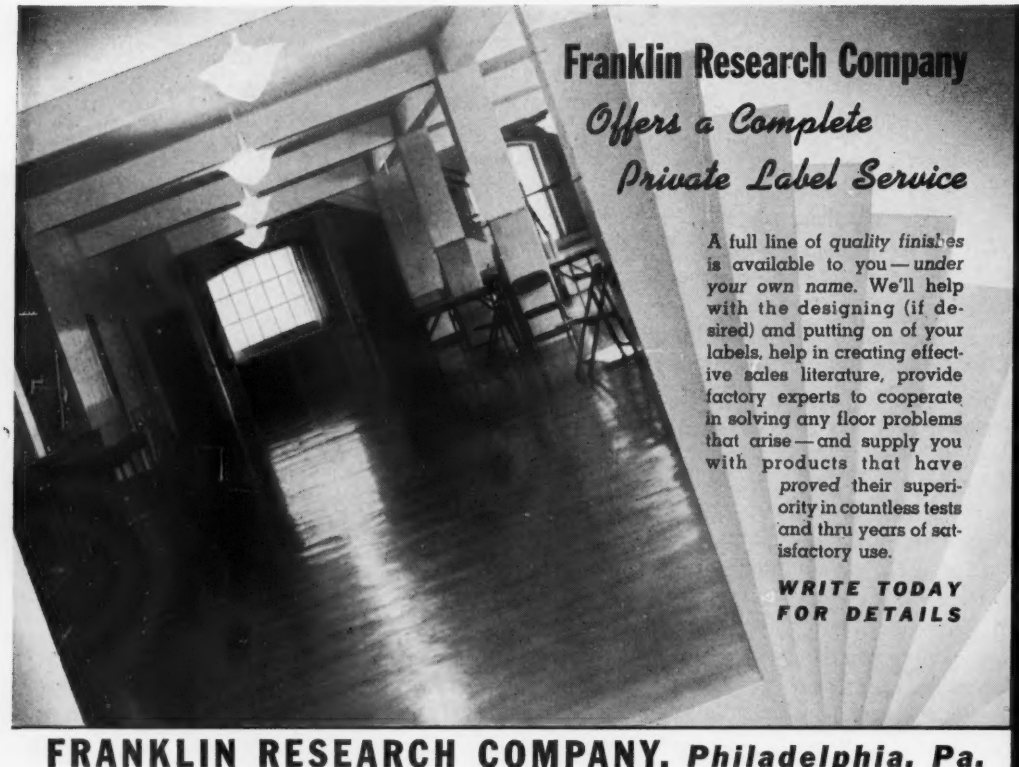

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WRITE TODAY FOR DETAILS

FRANKLIN RESEARCH COMPANY, *Philadelphia, Pa.*
Distributors and Warehouses in All Principal Cities

Powco's Redhook Bearcats, team of John Powell & Co. plant, floored the office team with their new uniforms and then went on to win the annual soft ball game between plant and office by a score of 9 to 0.

Powell Plant Wins

In the annual softball game between plant employes and the office staff of John Powell & Co., New York, the plant players emerged victorious by a score of 9 to 0. The game was played on Saturday, June 28, in connection with the annual outing and picnic of Powell employes held at Karotsonyi's Inn, Glenwood Landing, Long Island. Eighty persons among the employes of the firm and their families attended. Following the baseball game, a steak dinner was served at the Inn and prizes were awarded.

William Gavaghan of the plant staff managed the winning ball team and David Hoyer was in charge of the office team. Albert Manti pitched for the winners and allowed only five hits. Dr. Alfred Weed was captain and pitched for the office crew. Joe Weisnet was captain and second baseman for the plant. G. R. Rinke was the umpire. Heavy hitters in the game included Monahan, Devlin, Powell, and Haude. Mascot for the plant team shown in the picture is Peter Devlin.

Richard Gesell Dies

Richard Gesell, head of R. Gesell, Inc., New York, drugs and private brand products, died June 27 after a short illness at the age of 46. Mr. Gesell got his early training in the drug field with Lehn & Fink, and later joined the firm of Ehrmann & Strauss of which he eventually became the owner. In 1938 the name of the company was changed to R. Gesell, Inc. He is survived by his mother, a daughter, and a brother W. H. Gesell, vice-president of Lehn & Fink.

G. C. Stephenson has just been appointed sales manager of the Tar and Chemical division of Koppers Co.

N.A.I.D.M. President's Address

(*from Page* 95)

or supply products on specifications that are impossible of fulfillment?

It is my firm conviction that we as manufacturers must do a better job of policing our industry both individually and through this association or otherwise we will have our businesses regulated and policed for us. A new era is at hand and if manufacturers are such rugged individualists as not to recognize this fact, a rude awakening is in store for them.

But through it all we can "trade up", be constructive, instead of "trading down" and being negative and destructive. We can make and market products of recognized quality, we can sell them at fair prices and make reasonable claims for them, and I am sure that our industry as a whole and our businesses individually will progress and prosper. Your business is only a reflection of your own thinking or the aggregate thinking of the management. How good is your business?

Insecticide Firms Join NAIDM

Velsicol Corp., Chicago, manufacturers of synthetic insecticidal materials, and Brocker Chemical Co., Morganville, N. J., manufacturers of agricultural and household insecticides, are new members of the National Association of Insecticide and Disinfectant Manufacturers.

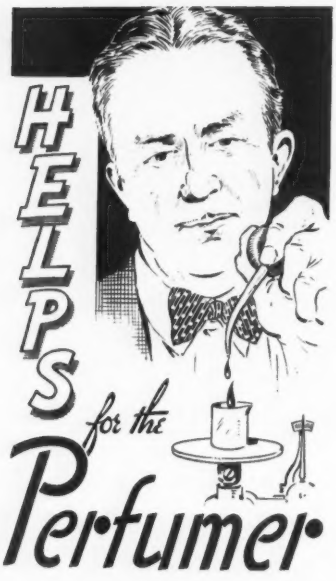
Floor Wax Additive

Triton W-30 is a useful additive in floor waxes, according to Rohm & Haas Co., Philadelphia. The product is said to improve the lustre of waxes and to give them better spreading qualities.

Convention Registration

(*from Page* 94)

C. O. Auslander—Michael Reese Hospital, Chicago.
E. C. Kratch—National Sanitary Specialties Assn., Milwaukee.
W. G. Walter—N. Y. Agricultural Experiment Station, Geneva, New York.
C. N. Skidmore—Northwestern University, Chicago.
C. S. Barnhart—Ohio State University, Columbus, Ohio.
F. L. Campbell—Ohio State University, Columbus.
J. J. Davis—Purdue University, Lafayette, Ind.
W. E. McCauley—State of Ill. Nat'l History Survey, Champaign, Ill.
Carl J. Weinman—State of Ill. Nat'l History Survey, Champaign, Ill.
Prof. Fred A. Russell—University of Illinois, Urbana, Ill.
Ed M. Searls—University of Wisconsin, Madison, Wis.



THE problems of a perfumer have increased recently. The big factor has been that many perfume raw materials, so important to his work, are unobtainable due to present world conflicts.

Another consideration of the perfumer is the rising cost of materials which are still available from sections not affected by the war. The rising cost in this case is due to lack of shipping facilities, combined with increased demand, which have made raw material costs prohibitive.

To meet this emergency, the laboratories of P. R. Dreyer Inc., stand ready to work with perfumers by offering an extensive line of Imitation Essential Oils, a few of which are listed below.

IMITATION LAVENDER: Offered in three grades —Standard, Special and Extra. The price range is from $2.50 lb. to $3.45 lb.

IMITATION CANANGA: This item in its natural state has advanced to a point where, for many uses, the price has become prohibitive. Our Imitation Cananga which sells for $2.00 per pound in 25 lb. containers, offsets this advance.

IMITATION BERGAMOT: To fit the variety of quality in perfumes, Imitation Bergamot is available in three grades—Standard, Special and Extra, ranging in price from $1.75 lb. to $5.00 lb.

For complete listings of perfume raw materials available, write for Catalogue "A" Essential Oils and Aromatic Chemicals. Aside from the complete listing of natural products, Page 7 of this catalogue lists a group of Imitation Essential Oils of interest to every perfumer. Address request for catalogue and samples to:

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Insects for the Layman

"Introducing Insects—A Book for Beginners," by James G. Needham, emeritus professor of entomology, Cornell University, is just what its name implies—a book intended for people who want a little information about common insects, presented in language that anyone can understand. It is generously illustrated with sketches and written in an easy, familiar style with all technicalities omitted. As the book is strictly for the amateur entomologist, pest control is stressed only lightly.

Rotenone Booster

The effectiveness of a composition consisting of a contact insecticidal material such as rotenone, with or without kerosene, an emulsifier, etc., is increased by addition of a terpene ether. An example is the additive ether of ethylene glycol and turpentine. F. M. Thompson, Jr., to Hercules Powder Co. British Patent No. 513,328.

Control of House Flies

Successful control of houseflies was obtained by dusting walls and ceilings with a mixture of 94-5 parts of powdered sugar and 5-6 parts of sodium arsenite or arsenic trioxide, applied at 0.5 gram per 10 square feet. Death occurred in 2-3 hours. On reducing the proportion of poison to 2-3 parts, only 50 per cent mortality was obtained in two days. Increasing it to 8-12 parts did not increase the effectiveness of the mixture. V. M. Pivovarov. *Med. Parasitol*, **8**, No. 3, 362-3.

Silver Polish

Polishes for cleaning silver, windows, and automobile reflectors are obtained by mixing an aliphatic alcohol of low molecular weight in a proportion at least 15 per cent of the weight of the final emulsion, with 0.5-1.5 per cent of gum tragacanth. Water is added to swell the gum, and 10-15 per cent of abrasive materials are introduced, such as silica, chalk, magnesia, calamine (a mixture of iron oxide with zinc oxide), and particularly Celit Superfloss. The mixture is agitated and finally emulsified by adding a small quantity of a mineral oil containing a thickening agent, such as polyisobutylene. Standard Oil Development Co. French Patent No. 845,219.

Phenol in Soap

In a modification of the gravimetric determination of phenol in soap by precipitation as tribromophenol, results accurate to 0.1 per cent can be obtained in 1½-2 hours by an iodometric method of back titration of the excess bromine reagent. Shake 1 gram of shredded soap in 50 cc. of water warmed to 60-70° C., until dissolved, precipitate with 10 cc. of 10 per cent calcium chloride, filter and wash the calcium soap with 25-50 cc. of cold water. Treat the filtrate with the bromate-bromide reagent containing 2.7837 grams of potassium bromate and 10 grams of potassium bromide in 1 liter of water, add 5 cc. of concentrated hydrochloric acid, shake and allow to stand for 15 minutes. Introduce 2 grams of solid potassium iodide, shake until dissolved, let stand 5 minutes and titrate with 0.1 Normal sodium thiosulfate solution to a straw-yellow, add starch solution and titrate to a blue endpoint. Make a blank test and calculate phenol. S. N. Semenov and M. Zaliopo. Masloboino Zhirovoe Delo **16,** No. 3, 20-1 (1940); through *Chem. Abs.*

Moth Killer

About 5 per cent of hexachloroethane, acetone, chloroform or chloral hydrate is used as an activating agent with mono- and dichlorobenzenes in insecticides suitable for combating moths. Hans von Philipp. U. S. Patent No. 2,214,782.

Mothproofing Fabrics

The fabric is treated with an aqueous solution containing a complex salt of antimony and fluorine, such as ammonium fluoantimonate. Daniel H. Jones. U. S. Patent No. 2,214,962.

Insect Repellents

Citronella, even though its odor is displeasing to some people, still ranks among the more important insect repellents. A satisfactory formula containing citronella is:

Oil of citronella	15.0 cc.
Spirit of camphor	7.5 cc.
Cedarwood oil	7.5 cc.
White petrolatum	60.0 grams

A similar British preparation was found satisfactory when tested by troops in Northern India, where the malaria mosquito abounds:

Citronella oil	5 oz.
Camphor	0.25 oz.
Cedarwood oil	2.5 oz.
Hard paraffin	7.5 oz.
Soft white paraffin	12.5 oz.

A lotion made from the same ingredients contains:

Camphor	5 parts
Cedarwood oil	20 parts
Citronella oil	40 parts
Alcohol	35 parts

Pyrethrum products afford some protection against mosquitoes:

Oil of thyme	0.5 oz.
Pyrethrum concentrate	1 oz.
Castor oil	2-3 oz.

M. A. Lesser. *Drug & Cosmetic Industry* **48,** 148-51, 165 (1941).

Derris Diluents

Experiments lead to the conclusion that even very small amounts of free lime used as a diluent for a derris powder mixture cause deterioration of the prepared insecticide dust. In cases where it is necessary to use a diluent containing traces of lime the dust should be used immediately and not stored. W. Spoon. *Indische Mercuur* **63,** 149; through Chem. Abs.

"Zoop" Changes Hands

Patent licenses to manufacture and sell "Zoop" self-emulsifying degreasing solvent concentrate, formerly owned by the automotive division of Johns-Manville Corp., New York, have recently been acquired by Bennett, Inc., Cambridge, Mass.

Polish for Enamel

A composition forming a firm cake at normal temperatures, suitable for cleaning, polishing and waxing enamel surfaces contains: About 13 per cent of a wax and plasticizer such

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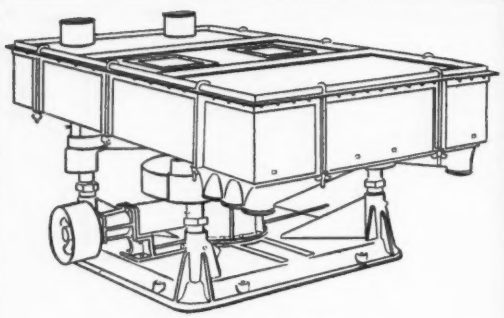

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as an oil or kerosene, 65 per cent of a wax solvent such as "mineral spirits," and 22 per cent of an abrasive adsorbent such as diatomaceous earth. F. A. Weihe, Jr., to McAleer Mfg. Co. U. S. Patent No. 2,214,263.

—— ♦ ——

Flight Range of Flies

The flight range of houseflies *Musca domestica* was determined by spraying them lightly with a 2-5 per cent solution of rosolic acid indicator in alcoholic solution. After the flies were caught on fly paper they were dipped in a solution of caustic soda. A red color appeared on all sprayed flies. The flies traveled over a half mile. G. E. Sanders. *Pests* 8, No. 12, 25.

—— ♦ ——

Trade Marks Granted

(*from Page* 49)

387,669. Cleaning preparation. Plee-Zing, Inc., Chicago. Filed Oct. 9, 1940. Serial No. 436,778. Published Mar. 18, 1941. Class 4.

387,684. Shoe polish. Omega Shoe Polish Co., Los Angeles. Filed Nov. 7, 1940. Serial No. 437,662. Published March 18, 1941. Class 4.

387,694. Cleaner. Physicians & Hospitals Supply Co., Minneapolis. Filed Nov. 27, 1940. Serial No. 438,281. Published March 18, 1941. Class 4.

387,697. Cleaner. Doyle Vacuum Cleaner Co., Grand Rapids, Mich. Filed Nov. 30, 1940. Serial No. 438,380. Published Mar. 11, 1941. Class 4.

387,731. Shampoo. Nar-O Co., St. Louis. Filed Dec. 30, 1940. Serial No. 439,265. Published Mar. 18, 1941. Class 6.

387,737. Cleaner. James J. Lax, New York. Filed Dec. 31, 1940. Serial No. 439,307. Published Mar. 18, 1941. Class 4.

387,766. Foot powder. X.B.A. Chemical Co., Lexington, N. C. Filed Jan. 22, 1941. Serial No. 439,885. Published Mar. 4, 1941. Class 6.

387,767. Shampoo. Clairol, Inc. Filed Jan. 23, 1941. Serial No. 439,888. Published Mar. 18, 1941. Class 6.

387,770. Shampoo. William Cooper & Nephews, Chicago. Filed Jan. 29, 1941. Serial No. 440,084. Published Mar. 18, 1941. Class 6.

387,773. Mothproof. Richards Chemical Works, Jersey City. Filed Feb. 1, 1941. Serial No. 440,212. Published Mar. 18, 1941. Class 6.

387,774. Mothproof. Richards Chemical Works, Jersey City. Filed Feb. 1, 1941. Serial No. 440,213. Published Mar. 18, 1941. Class 6.

387,819. Soap. Pinaud, Inc., New York. Filed Jan. 17, 1940. Serial No. 427,556. Published Mar. 25, 1941. Class 4.

387,870. Cleanser. Hall-Watson Co., New York. Filed Jan. 11, 1941. Serial No. 439,595. Published Mar. 25, 1941. Class 4.

387,942. Polish. Oneida Ltd., Oneida, N. Y. Filed Feb. 6, 1940. Serial No. 428,291. Published Apr. 1, 1941. Class 4.

387,954. Insecticide. O-Cedar Corp., Chicago. Filed May 31, 1940. Serial No. 432,545. Published Apr. 1, 1941. Class 6.

387,988. Insecticide. Desoto Chemical Co., Arcadia, Fla. Filed Oct. 25, 1940. Serial No. 437,274. Published Mar. 25, 1941. Class 6.

387,991. Athlete's foot preparation. Foxx Co., New York. Filed Oct. 29, 1940. Serial No. 437,369. Published Mar. 25, 1941. Class 6.

388,002. Foot powder. Reinhardt Drug Co., Le Center, Minn. Filed Nov. 27, 1940. Serial No. 438,285. Published Mar. 25, 1941. Class 6.

388,021. Polish. Steele Mfg. Co., New Orleans. Filed Dec. 19, 1940. Serial No. 439,031. Published Apr. 1, 1941. Class 16.

388,023. Cleaner. Clowood Co., Phila. Filed Dec. 23, 1940. Serial No. 439,135. Published April 1, 1941. Class 4.

388,024. Insecticide. Babson Bros. Co., Chicago. Filed Dec. 26, 1940. Serial No. 439,187. Published Mar. 25, 1941. Class 6.

388,092. Boiler compound. Soproco, Inc., New Orleans. Filed Jan. 28, 1941. Serial No. 440,064. Published Apr. 1, 1941. Class 6.

388,093. Germicide. Beacon Chemical Corp., Phila. Filed Jan. 29, 1941. Serial No. 440,081. Published Apr. 1, 1941. Class 6.

388,105. Germicide. Farr Co., Greeley, Colo. Filed Feb. 3, 1941. Serial No. 440,238. Published Apr. 1, 1941. Class 6.

388,114. Insect lotion. Abelino Seoane, Denver. Filed Feb. 6, 1941. Serial No. 440,389. Published Apr. 1, 1941. Class 6.

388,117. Dentifrice. Lactra Tooth Paste Co., New York. Filed Feb. 11, 1941. Serial No. 440,543. Published Apr. 1, 1941. Class 6.

388,118. Fungicide. Miller Chemical & Fertilizer Co., Baltimore. Filed Feb. 11, 1941. Serial No. 440,560. Published Apr. 1, 1941. Class 6.

388,120. Antiseptic foot bath. J. L. Hoffman Co., Allentown, Pa. Filed Feb. 12, 1941. Serial No. 440,592. Published Apr. 1, 1941. Class 6.

388,133. Insect repellent. Foley & Co., Chicago. Filed Feb. 19, 1941. Serial No. 440,780. Published Apr. 1, 1941. Class 6.

388,201. Shampoo. Boris Feldman, New York. Filed Aug. 20, 1940. Serial No. 434,361. Published Mar. 25, 1941. Class 6.

388,232. Detergents. Finger Lakes Chemical Co., Ithaca, N. Y. Filed Dec. 13, 1940. Serial No. 438,795. Published Apr. 8, 1941. Class 4.

388,241. Cleaner. Cleaning Specialties Co., Phila. Filed Dec. 20, 1940. Serial No. 439,062. Published Apr. 8, 1941. Class 4.

388,268. Insecticide. National Antiseptics, Inc., Seattle. Filed Jan. 25, 1941. Serial No. 439,971. Published Apr. 8, 1941. Class 6.

388,273. Detergent. Cowles Detergent Co., Cleveland. Filed Jan. 28, 1941. Serial No. 440,043. Published Apr. 8, 1941. Class 6.

388,315. Soap and shaving cream. Theobald Industries, Kearny, N. J. Filed Feb. 14, 1941. Serial No. 440,666. Published Apr. 8, 1941. Class 4.

388,316. Shaving cream and soap. Theobald Industries, Kearny, N. J. Filed Feb. 14, 1941. Serial No. 440,667. Published Apr. 8, 1941. Class 4.

388,317. Shaving cream and soap. Theobald Industries, Kearny, N. J. Filed Feb. 14, 1941. Serial No. 440,668. Published Apr. 8, 1941. Class 4.

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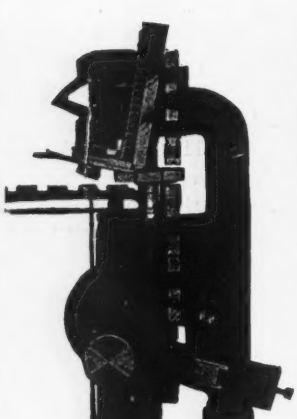

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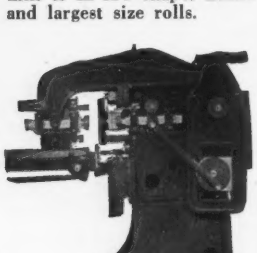

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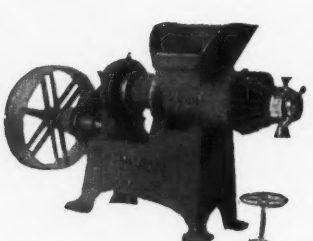

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Position Wanted by Expert—maker of auto-furniture-metal polishes, waxes, cleaners. Address Box No. 165, care *Soap & Sanitary Chemicals.*

Soap Maker and Chemist desires position—man with long experience as superintendent in factories making all kinds of soaps, recovery of glycerine, etc. Also know rendering business. Address Box No. 175, care *Soap & Sanitary Chemicals.*

Manager or Plant Superintendent—expert at making laundry, toilet soaps, soap powder, and glycerine recovery. Or can handle sales and office. Address Box No. 161, care *Soap & Sanitary Chemicals.*

As Never Before . . .

• YOU SAVE TIME
• YOU SAVE MONEY
with CONSOLIDATED
Rebuilt Equipment

SELECTED SPECIALS

2—Pneumatic Scale Carton Packaging Units.
1—Sargent 54" x 72" single Chilling Roll.
2—Proctor & Schwartz Soap Chip Dryers, steel frame; 1 with single cooling roll.
1—Houchin Para Block Press, with sliding die.
1—Soap Foot Press.
2—Jones Vertical Automatic Soap Presses.
1—Jones Horizontal Automatic Soap Press.
3—Houchin Plodders, 10", 8", 4"
1—Automatic Soap Wrapping Machine.

Crutchers	Foot and Automatic Soap Presses	Filter Presses
Soap Kettles	Cutting Tables	Soap Frames
Powder Mixers	Pulverizers	Powder Fillers
Granite Mills	Soap Pumps	Labellers
Plodders	Soap Chippers	Tanks
Slabbers		Boilers

Send for New Illustrated Circular
Serving Industry for 24 Years

CONSOLIDATED PRODUCTS CO., INC.
15-21 PARK ROW NEW YORK, N. Y.
BArclay 7-0600 Cable Address: Equipment
We buy your idle Machinery—Send us a list.

ROTENONE
and
DERRIS RESINS

Manufacturers of finished insecticides have come, over a period of years, to look to DERRIS, INC. as headquarters for rotenone and derris products of all types. We are specialists in this field and are prepared to supply specifically compounded products made up according to each customer's varying needs.

Timbo Powder — Derris Powder
of Finest Grind

DERRIS, Inc.

79 WALL STREET NEW YORK, N. Y.

We announce development of new type soap colors

PYLAKLORS

They have good fastness to alkali, light, tin, ageing.

The following shades are already available:

Bright Green	Dark Brown
Olive Green	Palm Green
Yellow	Golden Brown
True Blue	Violet

It will pay you to send for testing samples.

PYLAM PRODUCTS CO., INC.

Manufacturing Chemists, Importers, Exporters

799 Greenwich St. New York City

Cable Address: "Pylamco"

"Steamaster"
INSECTICIDE SPRAYER

With steam serving both as an ingredient and as a force, the insecticide itself is held in moist suspension and the attack is made at full strength . . . thus guaranteeing a 100% thorough job of pest extermination. Completely enclosed heating element. Operates from any electric outlet. No fire hazard. Current shuts off automatically when water level drops below the level of the heating element.

A. C. ONLY

Write Today for Complete Details, Prices and Descriptive Literature.

DULA MFG. CO. INC.

351 Atlantic Avenue Brooklyn, N. Y.

Manufacturers to the Wholesale Trade Only

MIRVALE

CRESYLIC ACID

• • •

HIGH BOILING TAR ACIDS

• • •

NAPHTHALENE

• • •

TAR ACID CREOSOTE OIL

• • •

MIRVALE
CHEMICAL CO. LTD.
MIRFIELD, YORKS.
ENGLAND

Greenwood

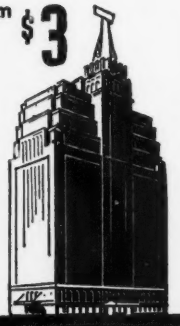
Direct Subway Entrance to all Points of Interest

New York's Popular
HOTEL
LINCOLN
44TH TO 45TH STS. AT 8TH AVE.

OUR CHOICEST ROOMS From $3

1400 ROOMS each with Bath, Servidor, and Radio.

★ Four fine restaurants awarded Grand Prix 1940 Culinary Art Exhibition.



MARIA KRAMER
PRESIDENT
John L. Horgan
Gen. Mgr.
HOTEL EDISON
SAME OWNERSHIP

IN THE CENTER OF MID-TOWN NEW YORK

Soapmaker—Years of experience in making all types of soaps. Record and references on request. Address Box No. 146, care *Soap & Sanitary Chemicals.*

Soap Technologist with wide experience would like to connect with good firm, where his education and experience can be used to good advantage. Would accept executive position. Address Box No. 180, care *Soap & Sanitary Chemicals.*

Positions Open

Chemist Wanted: Research chemist with good experience in oils, waxes, varnish, lacquer, and synthetic finishes, required to take charge of research located Chicago area, responsible only to management. State full particulars of age, education, past experience, and compensation desired. Applications will be kept in strict confidence. Box No. 173, care *Soap & Sanitary Chemicals.*

Jobbers-Distributors-Salesmen Wanted — to sell Glasstex, a furniture polish. Good opening. Address Box No. 164, care *Soap & Sanitary Chemicals.*

Salesman—Experienced. High grade insecticide and allied products to industrials and jobbers. Modest drawing account and excellent commission rate. Replies confidential. Address Box No. 176, care *Soap & Sanitary Chemicals.*

Miscellaneous

Successful specialty business, established over 25 years, is on the market because of partnership disagreement. Purchase price involves about $100,000. Details available upon establishment of authentic interest. Box No. 181, care *Soap & Sanitary Chemicals.*

For Sale. Established business; 20 years making auto, metal, glass, furniture polishes, waxes, cleaners. All the latest formulas. Will teach buyer. Address Box No. 166, care *Soap & Sanitary Chemicals.*

Cincinnati Firm would be interested in representing established firms offering materials for the soap industry. Address Box No. 162, care *Soap & Sanitary Chemicals.*

For Sale: Six to ten thousand dollars will buy well-established soap manufacturing business, established 1920. Best opportunity. Address Box No. 163, care *Soap & Sanitary Chemicals.*

Wanted to Buy—Dry Powder Mixer about 500 pound capacity. William Berens Company, New Rochelle, N. Y.

F. & S.

Quality Colors
for
TOILET SOAPS
LIQUID SOAPS

TOILET PREPARATIONS

Long experience enables us to produce colors for all types of soaps.

If you have a shade you want matched send us a sample. We have complete facilities for matching.

Liquid soap colors a specialty—send for samples of F. & S. greens and ambers.

FEZANDIE & SPERRLE, Inc.
205 FULTON STREET
NEW YORK, N. Y.
Import—Manufacture—Export

A New Departure In Crutcher Performance

The HUBER ELECTRO PERFECTION CRUTCHER is now available in a new model,—with four forward and reverse speeds. The flexibility in operating technique afforded by this wider choice of crutcher speeds should be decidedly interesting to many soap makers. Available in three sizes,—1,500, 2400 and 3200 pounds.

HUBER MACHINE CO.
"Builders of Good Soap Machinery for the Past 45 Years"
265 46th STREET BROOKLYN, N. Y.

DERRIS CUBE

. . . and other insecticide specialties for the agricultural and household trades.

•

. . . paints, polishes, cleaners, specialties for the janitor supply house. Let us send further information.

•

HAMMOND

PAINT & CHEMICAL CO.

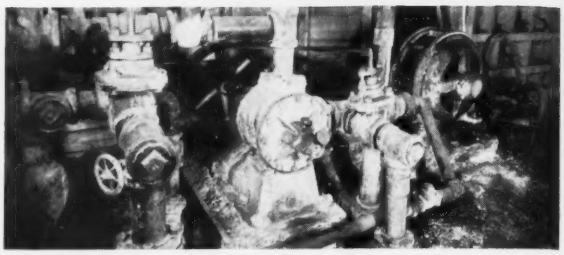
BEACON NEW YORK

ESTABLISHED 1875

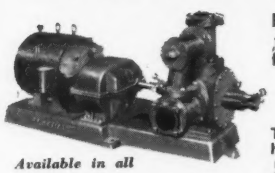
FOR ECONOMY & LONG LIFE

BLACKMER

IS AMERICA'S NO. 1 ROTARY PUMP



Handling caustic soda in an Illinois chemical plant since 1929 —this pump is still in daily service.



Available in all standard drives.

From 10 to 20 years continuous, trouble-free service is average performance for Blackmer Rotaries.

THE PUMP THAT IS SELF-ADJUSTING FOR WEAR — FAMOUS BUCKET DESIGN

There is a standard Blackmer pump for handling almost any liquid from naphtha to glue. Capacities from 5 to 700 GPM, hand or power drive.

There is a Blackmer man near you. Write the factory for prompt action. Ask for Bulletin UB320.

BLACKMER PUMP COMPANY

1897 CENTURY AVENUE, S.W. GRAND RAPIDS, MICH.

GOOD CHEMICALS — FOUNDED 1868 — JAMES GOOD, INC. PHILADELPHIA U.S.A.

"Good" Disinfectants

Pine Oil Disinfectants Coefs. 3 and 4

Phenolic Emulsifying Disinfectants Coefs. 2 to 20

Soluble Cresylic Disinfectant
Coef. 2.5 (B.A.I. Specifications)

Saponated Solution of Cresol
U.S.P. XI (Cresol Compound Solution)

All made under careful laboratory control. Phenol coefficients determined by LaWall and Harrisson Laboratories.

Other "GOOD" Products

Insect Sprays	Vegetable Oil Soaps
Cattle Sprays	Liquid Soaps
Bed Bug Sprays	Scrub Soaps (Liquid & Jelly)
Agricultural Insecticides	Floor Wax and Polishes

BULK PACKAGES AND PRIVATE LABEL

JAMES GOOD, INC.

Manufacturing Chemists—Since 1868

2112 E. SUSQUEHANNA AVE. PHILA., PA.

Classified Advertising

Brings excellent results at a minimum cost. Rates are only 10c per word with a minimum charge of $2 per issue (position wanted advertisements accepted at half rates). Whether you have some surplus equipment or material for sale, have a position open or are looking for a new connection, etc., use space in the Classified Section of *Soap.* It will place you in touch with the entire soap and sanitary chemical industry.

★ ★ ★ ★

For Sale: 1—Garrigue Single Effect Evaporator; P. & S. Soap Chip Dryer; Blanchard Soap Powder Mill; 30—1200 lb. Soap Frames; Crutchers, Slabbers, Kettles, Cutting Tables, etc. We buy single items to complete plants. Brill Equipment Corporation, 183 Varick Street, New York City.

Rebuilt Guaranteed Machinery—Crutchers; Plodders; Jones Automatic Soap Press; Foot Presses; Proctor Soap Dryer; 12x30, and 16x40 Three Roll Water Cooled Steel Mills; 2, 3, and 4 Roll Stone Mills; Johnson Carton Sealers; Powder Fillers and Mixers; Chippers, vertical and horizontal; Mixers; Grinders; Boiling Kettles; Cutting Tables; Soap Frames; Filters and Filter Presses, etc. Send for Soap Bulletin No. 402. Stein Equipment Corp., 426 Broome St., New York City.

Floor Brushes—We manufacture a very complete line. Catalogue sent upon request. Flour City Brush Company, Minneapolis, Minn., or Pacific Coast Brush Co., Los Angeles, Calif.

Will Purchase Immediately—Pneumatic Packaging Machine, used for chips, powder, cleanser; also dry mixers, chip dryers, crutchers, and automatic soap press. Address Box No. 168, care *Soap & Sanitary Chemicals.*

For Sale:—Insecticide trademark, formula "Fly-Hootch—Little Brown Jug," $2,000 electros, etc. Make an offer. H. H. Plowfield, W. Lawn, Penna.

MANILA GUM

Our Manila Gums are now widely used in *liquid floor waxes.* Have you tried them in your products? Write us for details.

Also a full line of other spirit and oil soluble Natural Resins.

O. G. INNES CORPORATION
VARNISH GUMS
533-541 CANAL STREET
(NEAR WEST STREET)
NEW YORK, N. Y.

Telephone
WAlker 5-8481-2-3

Say You Saw It in Soap!

THE average business house receives a great many inquiries for its products or services every year which cannot be attributed to any special source. A vast majority of these probably originate from some form of advertising but, due to the general tendency toward not mentioning the names of publications, cannot be directly traced.

When you write to anyone advertising in this publication, say you saw it in SOAP. The advertiser will appreciate it—and so will we!

The Publishers

Drop in for a real
MARYLAND WEEK-END!

Plan to stay a few days—make your next Baltimore business trip a pleasure visit! There's ever so much to see and do in this famous old Maryland city and the surrounding country-side. Enjoy them to the utmost with the comforting knowledge that at each day's end you will come "home" to a delightful cuisine, a sound sleep in one of the most comfortable beds in Maryland . . . and *service* that seems to have been planned with you alone in mind!

700 ROOMS FROM $3

LORD BALTIMORE HOTEL
BALTIMORE, MARYLAND

COLORS

for

Toilet Soaps — Shampoos
Liquid Soaps — Lotions
Para Blocks — Hand Soaps
Shave Creams — Sweep Compounds
and other Chemical Specialties

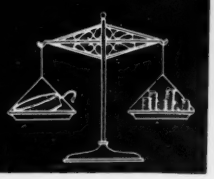
* * * *

Does your product require a *certified color* under the new law? Let us advise you, and supply you with exactly the right color for the right purpose!

Interstate Color Co., Inc.
9 Beekman Street — New York

"Color it for greater sales appeal."

PURITY PAYS



HOOKER
PARADI
Reg. U. S. Pat. Off.

The purity of HOOKER Paradi builds up the sales and the reputation of the repackager. HOOKER Paradi is unadulterated paradichlorbenzene. It is available in six accurately graded sizes of clean, clear, bright, free-flowing crystals. Rely on HOOKER PARADI to promote your brands of insecticides and insect repellents, sanitary specialties and deodorants.

HOOKER ELECTROCHEMICAL COMPANY
NIAGARA FALLS, NEW YORK
NEW YORK CITY — TACOMA, WASHINGTON

483

30 RARE AND COMMON
Gases

In six different sizes of cylinders from ½ pound to 150 pounds.

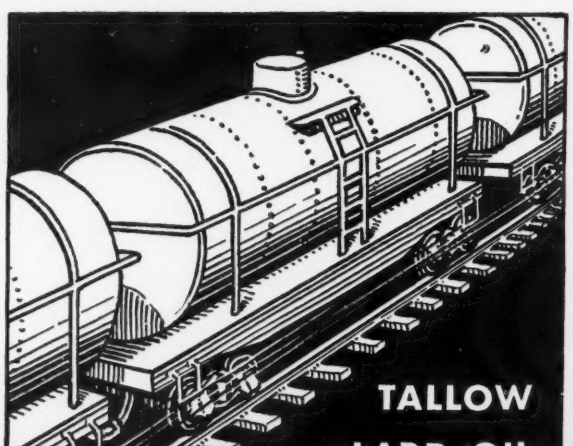
AMMONIA
ARGON
BORON TRIFLUORIDE
BUTADIENE
BUTANE
CARBON DIOXIDE
CHLORINE
DIMETHYL ETHER
ETHANE
ETHYL CHLORIDE
ETHYLENE
ETHYLENE OXIDE
FREON (12)
HELIUM
HYDROGEN
HYDROGEN CHLORIDE
HYDROGEN FLUORIDE
HYDROGEN SULPHIDE
ISOBUTANE
ISOBUTYLENE
METHANE
METHYL CHLORIDE
NICKEL CARBONYL
NITROGEN
NITROUS OXIDE
OXYGEN
PHOSGENE
PROPANE
PROPYLENE
SULPHUR DIOXIDE

Write for Catalogue

Dept. A
Paterson
Plank
Road

The Matheson Co.

East
Rutherford
N. J.



TALLOW
LARD OIL
NEATSFOOT OIL
ANIMAL STEARINE
ACIDLESS TALLOW OIL

Prompt Delivery—Drums, Barrels, or Tank Cars.

INDEPENDENT MANUFACTURING CO.
Bridesburg P. O. — Philadelphia, Pa.

RAW MATERIALS AND EQUIPMENT

NOTE: This is a classified list of the companies which advertise regularly in SOAP. It will aid you in locating advertisements of raw materials, bulk and private brand products, equipment, packaging materials, etc., in which you are particularly interested. Refer to the Index of Advertisements, page 137, for page numbers. *"Say you saw it in SOAP."*

ALKALIES

John A. Chew, Inc.
Columbia Chemical Div., Pittsburgh Plate Glass Co.
Diamond Alkali Co.
Dow Chemical Co.
Eastern Industries
Hooker Electrochemical Co.
Innis, Speiden & Co.
Michigan Alkali Co.
Niagara Alkali Co.
Solvay Sales Corp
Jos. Turner & Co.
Warner Chemical Co.
Welch, Holme & Clark Co.

BULK AND PRIVATE BRAND PRODUCTS

Associated Chemists, Inc. (Insecticides)
Baird & McGuire, Inc. (Disinfectants)
Buckingham Wax Corp. (Wax Products)
Candy & Co. (Wax Products)
Chemical Supply Co. (Disinfectants, etc.)
Davies-Young Soap Co. (Soaps and Floor Wax)
Empire Chemical Products Co. (Wax Products)
Federal Varnish Co. (Wax Products)
Franklin Research Co. (Floor Products)
Fuld Bros. (Soaps and Sanitary Chemicals)
R. Gesell, Inc. (Chemical Specialties)
James Good, Inc. (Sanitary Chemicals)
R. M. Hollingshead Corp. (Soap and Sanitary Chemicals)
Hysan Products Co. (Sanitary Chemicals)
Koppers Co. (Disinfectants)
Kranich Soap Co. (Potash Soaps)
Pecks Products Co. (Soaps and Sanitary Chemicals)
Philadelphia Quartz Co. (Detergents)
Reilly Tar & Chem. Co. (Floor Seals)
Sweeping Compound Mfrs. Co. (Sweeping Compound)
Uncle Sam Chemical Co. (Sanitary Chemicals)
T. F. Washburn Co. (Wax Products)
White Tar Co. (Disinfectants, etc.)

CHEMICALS

American-British Chemical Supplies
John A. Chew, Inc.
Columbia Chemical Div., Pittsburgh Plate Glass Co.
Cowles Detergent Co.
Diamond Alkali Co.
Dow Chemical Co.
E. I. du Pont de Nemours & Co.
Eastern Industries
General Chemical Co.
Hooker Electrochemical Co
Industrial Chemical Sales Div
Innis, Speiden & Co.
Michigan Alkali Co.
Monsanto Chemical Co.
Niagara Alkali Co.
Philadelphia Quartz Co.
Rohm & Haas Co.
Reilly Tar & Chemical Corp.
Solvay Sales Corp.
Standard Silicate Co.
Jos. Turner & Co.
Victor Chemical Works
Warner Chemical Co.
Welch, Holme & Clark Co.

COAL TAR RAW MATERIALS
(Cresylic Acid, Tar Acid Oil, etc.)

American-British Chemical Supplies
Baird & McGuire, Inc.
Barrett Co.
Innis, Speiden & Co.
Koppers Co.
Mirvale Chemical Co.
Monsanto Chemical Co.
Pittsburgh Coal Carbonization Co.
Reilly Tar & Chemical Co.
White Tar Co.

COLORS

Fezandie & Sperrle
Interstate Color Co.
Pylam Products Co.

CONTAINERS AND CLOSURES

American Can Co. (Tin and Fibre Cans, Steel Pails)
Anchor-Hocking Glass Corp. (Closures and Bottles)
Continental Can Co. (Tin Cans)
Crown Can Co. (Tin Cans and Steel Pails)
National Can Co. (Tin Cans)
Williams Sealing Corp. (Closures)

DEODORIZING BLOCK HOLDERS

Fuld Bros.
Hysan Products Co.

INSECTICIDES, SYNTHETIC

Associated Chemists, Inc.
Dodge & Olcott Co.
John Powell & Co.
Rohm & Haas Co.
U. S. Industrial Chemicals, Inc.
Velsicol Corp.
Whitmire Research Corp.

MACHINERY

Anthony J. Fries (Soap Dies)
Blackmer Pump Co. (Pumps)
Houchin Machinery Co. (Soap Machinery)
Huber Machine Co. (Soap Machinery)
R. A. Jones & Co. (Automatic Soap Presses and Cartoning Machinery)
Karl Kiefer Machine Co. (Filling Machinery)
Koppers Company (Coal Tar Plants, Power Plants, Valves, Castings, Pipe, Tanks)
J. M. Lehmann Co. (Soap Machinery)

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MACHINERY, (Contd.)

Proctor & Schwartz (Dryers)
C. G. Sargent's Sons Corp. (Dryers)
Sprout, Waldron & Co. (Mixing, Conveying, etc.)
Stokes & Smith Co. (Packaging Machy.)

MACHINERY, USED

Consolidated Products Co.
Newman Tallow & Soap Machinery Co.

MISCELLANEOUS

American Standard Mfg. Co. (Wax Applicator and Mops)
Anchor-Hocking Glass Corp. (Metal Caps)
Crosby Naval Stores, Inc. (Pine Oil and Rosin)
Dow Chemical Co. (Germicides, Agricultural Insecticides, Fumigants)
Filtrol Corp. (Purifying and Decolorizing Clay)
Industrial Chemical Sales Div. (Decol. carbon, Chalk)
Innis, Speiden & Co. (Fumigants)
Koppers Company (Coal, Coke, Roofing Materials)
The Matheson Co. (Gases)
Pennsylvania Refining Co. (White Oils)
Pylam Products Co. (Lathering Agent)
Reilly Tar & Chem. Co. (Preservatives)
Victoria Paper Mills Co. (Toilet Tissues)

OILS, FATS, AND FATTY ACIDS

Eastern Industries
Emery Industries, Inc.
Independent Manufacturing Co.
Industrial Chemical Sales Div.
Newman Tallow & Soap Machinery Co.
Orbis Products Corp. (Stearic Acid)
Welch, Holme & Clark Co.

PARADICHLORBENZENE

John A. Chew, Inc.
Dow Chemical Co.
E. I. du Pont de Nemours & Co.
Hooker Electrochemical Co.
Monsanto Chemical Co.
Niagara Alkali Co.
Solvay Sales Corp.
Jos. Turner & Co.

PERFUMING MATERIALS

American-British Chemical Supplies
Aromatic Products, Inc.
Antoine Chiris Co.
Compagnie Parento
Dodge & Olcott Co.
Dow Chemical Co.
P. R. Dreyer Inc.
E. I. Du Pont de Nemours & Co.
Felton Chemical Corp.
Firmenich & Co.
Fritzsche Brothers, Inc.
General Drug Co.
Givaudan-Delawanna, Inc.
Geo. Lueders & Co.
Magnus, Mabee & Reynard, Inc.
Monsanto Chemical Co.
Norda Essential Oil & Chemical Co.
Orbis Products Corp.
John Powell & Co.
Ungerer & Co.
Van Ameringen-Haebler, Inc.
Albert Verley, Inc.

PETROLEUM PRODUCTS

Deodorized Insecticide Base, White Oils, Petrolatum, Paraffine Oils, Residues, etc.)

Atlantic Refining Co.
Pennsylvania Refining Co.
L. Sonneborn Sons, Inc.

PHOSPHATES

Trisodium, Sodium Pyrophosphate, etc.)

John A. Chew, Inc.
E. I. du Pont de Nemours & Co.
General Chemical Co.
Monsanto Chemical Works
Victor Chemical Works
Warner Chemical Co.

PYRETHRUM AND ROTENONE PRODUCTS

Insect Flowers and Powder, Pyrethrum Extract, Derris Products)

Associated Chemists, Inc.
Derris, Inc.
Dodge & Olcott Co.
Hammond Paint & Chem. Co.
McCormick & Co.
McLaughlin, Gormley, King Co.
S. B. Penick & Co.
John Powell & Co.
R. J. Prentiss & Co.

SILICATES

Cowles Detergent Co.
E. I. du Pont de Nemours & Co.
General Chemical Co.
Philadelphia Quartz Co.
Standard Silicate Co.

SOAP DISPENSERS

Bobrick Mfg. Co.
Chicago Precision Prods. Co.
Fuld Bros.

SPRAYERS

Breuer Electric Mfg. Co. (Electric)
Dula Mfg. Co. (Steam Sprayers)
Fumeral Co. (Pressure Sprayers, Steam, Air, CO_2 gas)

WAXES AND GUMS

Carnauba, Shellac, Candelilla, etc.)

O. G. Innes Corp.
Innis, Speiden & Co.
The Mac Lac Co. (Shellac)
Mantrose Corp. (Shellac)

PROFESSIONAL DIRECTORY

SKINNER & SHERMAN, INC.
246 Stuart Street Boston, Mass.
Bacteriologists and Chemists
Disinfectants tested for Phenol Coefficient. Toxicity Index determined by chick embryo method of Salle. Antiseptics tested by agar cup plate and other standard methods.
Chemical Analyses and Tests of All Kinds

STILLWELL AND GLADDING, Inc.
Analytical and Consulting Chemists
Members Association of
Consulting Chemists and Chemical Engineers
130 Cedar Street New York City

KILLING
strength of Insecticides
by PEET GRADY METHOD
PYRETHRINS in PYRETHRUM FLOWERS
(by Gnadinger or Seil Method)
We raised and killed more than 1 million flies in the last 2 years
ILLINOIS CHEMICAL LABORATORIES, INC.
GRIDLEY, ILLINOIS

FOSTER D. SNELL, INC.
Our staff of chemists, engineers and bacteriologists with laboratories for analysis, research, physical testing and bacteriology are prepared to render you *Every Form of Chemical Service*
313 Washington Street Brooklyn, N. Y.

ALAN PORTER LEE, Inc.
Contracting and Consulting Engineers
Design and Construction of Equipment and Plants for Producing and Processing Fats, Oils, Soaps and Related Products
136 LIBERTY STREET, NEW YORK, N. Y.
Cable Address: "ALPORTLE", New York

CONSULTANTS
offering their services to manufacturers of soaps and sanitary specialties should apprise the industry of their facilities through this professional card department. SOAP reaches 4,000 firms needing help of a professional nature.

H. A. SEIL, Ph.D. E. B. PUTT, Ph.C., B.Sc.
SEIL, PUTT & RUSBY, INC.
Analytical and Consulting Chemists
Specialists in the Analysis of Organic Insecticides, Pyrethrum Flowers, Derris Root, Barbasco, or Cube Root—Their Concentrates and Finished Preparations
DRUGS — ESSENTIAL OILS — SOAP
16 East 34th Street, New York, N. Y.

Soaps • Waxes • Polishes
Detergents • Disinfectants
Analysis Research
Formula Development
HochstadterLaboratories
INCORPORATED
254 West 31st St. New York City

CONSULTANTS
offering their services to manufacturers of soaps and sanitary specialties should apprise the industry of their facilities through this professional card department. SOAP reaches 4,000 firms needing help of a professional nature.

Patents—Trade Marks
All cases submitted given personal attention
Form "Evidence of Conception" with instructions for use and "Schedule of Government and Attorneys' Fees"—Free
Lancaster, Allwine & Rommel
PATENT LAW OFFICES
Suite 402, Bowen Building Washington, D. C.

Refer To Your 1941
BLUE BOOK
for F.D.A. Method for Testing of Disinfectants and Antiseptics.
Official N.A.I.D.M. Method for Testing and Grading of Insecticides.
Free with a $3.00 subscription to SOAP.
$4.00 Foreign
MAC NAIR-DORLAND CO.
Publishers
254 W. 31st Street New York, N. Y.

. . . Official Test Insecticide

STOCKS of the new 1941 Official Test Insecticide are now available for immediate shipment from the office of this Association. The 1941 O.T.I. is required for all testing and grading of fly sprays by the official Peet-Grady Method. The 1941 O.T.I. will remain official until June 1, 1942.

Directions for use of the O.T.I. and the technique of the Peet-Grady Method are given in a booklet, a copy of which is included in each carton of O.T.I.

The O.T.I. is available at $5.00 per dozen bottles, plus shipping costs, to members of this Association. To non-members, there is an additional service charge of $1.00 per dozen bottles. Single bottles are $1.00 each. Check with order is required.

▼

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AN OLD saying goes: "In time of peace, prepare for war." The reverse is also good advice,—"In time of war, prepare for peace." In short, in bending every effort to supply your goods for defense needs, remember that "there will come a day" when business will return to normal. In short, advertising in representative trade papers published now is pretty good insurance for the future when orders will not be so plentiful or easy to get.

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* * *

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* * *

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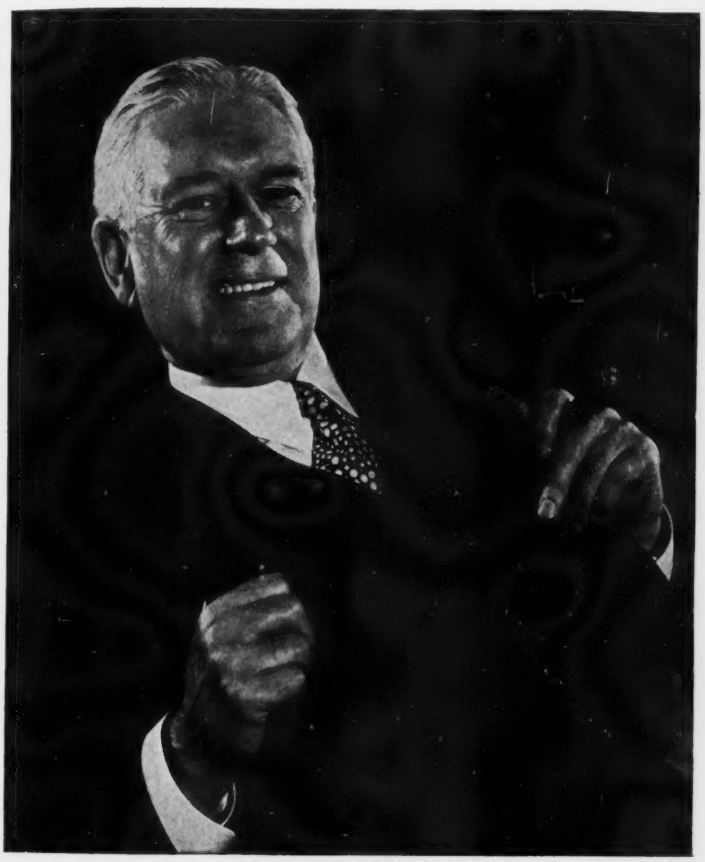

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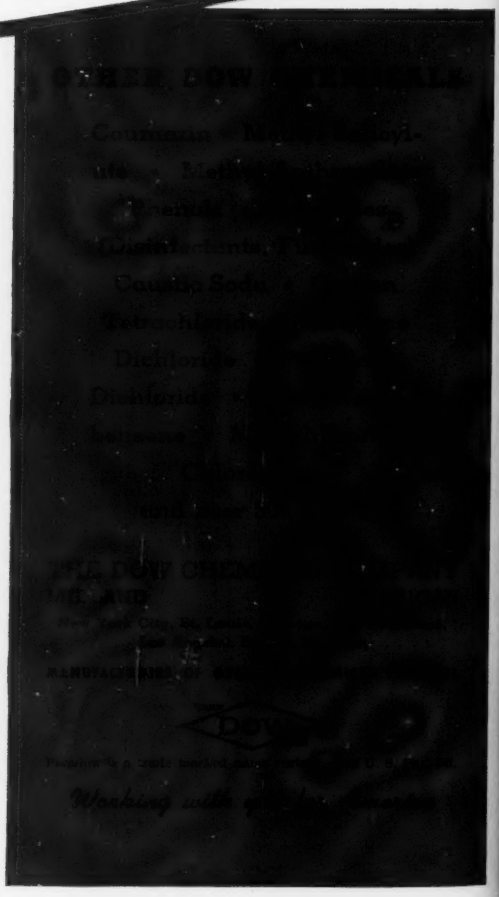
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